United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
New Jersey Agricultural
Experiment Station;
Rutgers, The State
University of New Jersey;
New Jersey Department
of Agriculture, State Soil
Conservation Committee;
and Salem County Soil
Conservation District

Soil Survey of Salem County, New Jersey

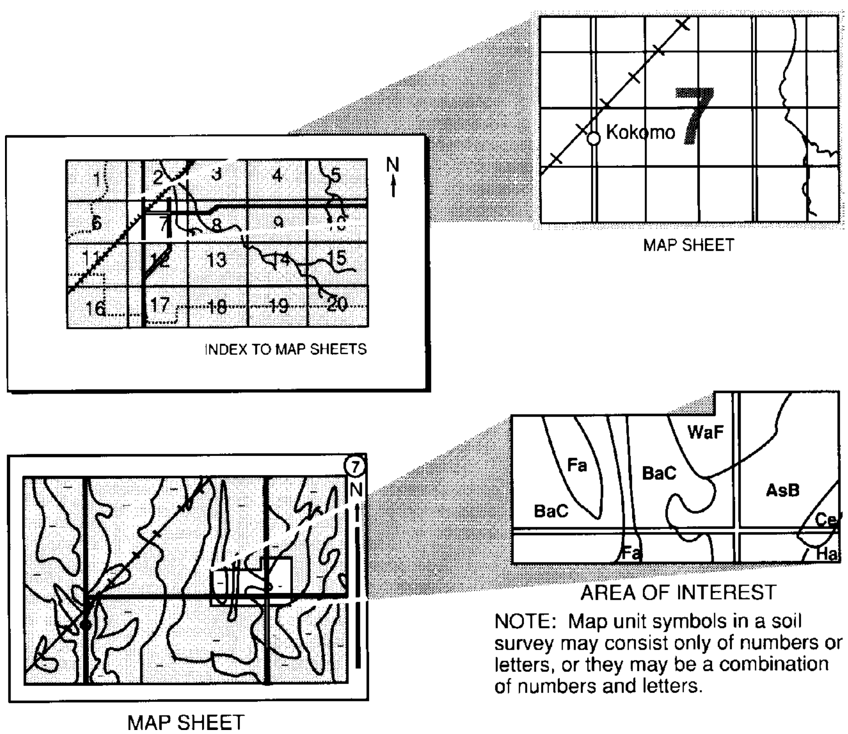
How To Use This Soil Survey

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and go to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Go to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1996. Soil names and descriptions were approved in 2004. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1996. This survey was made cooperatively by the Natural Resources Conservation Service; the New Jersey Agricultural Experiment Station; Rutgers, The State University of New Jersey; the New Jersey Department of Agriculture, State Soil Conservation Committee; and the Salem County Soil Conservation District.

Cover: Minimum tillage in an area of Downer sandy loam, 2 to 5 percent slopes, used for row crops.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

Contents

Issued June 2008

Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

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State Conservationist
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Soil Survey of
Salem County, New Jersey

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Final manuscript by Edwin Muñiz, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
the New Jersey Agricultural Experiment Station; Rutgers, The State University of New Jersey; the New Jersey Department of Agriculture, State Soil Conservation Committee; and the Salem County Soil Conservation District

SALEM COUNTY is in the southwestern corner of New Jersey (fig. 1). It has an area of 223,100 acres, or approximately 349 square miles. The county is bordered by Gloucester County on the north, Cumberland County on the south and east, and the State of Delaware and the Delaware River on the west. Salem County is divided into 15 municipalities (1 city, 3 boroughs, and 11 townships). Salem, the county seat, is in the southwestern corner of the county. It is about 30 miles south-southwest of Camden, New Jersey, and 12 miles from Wilmington, Delaware.

This soil survey updates the survey of Salem County published in 1969 (USDA SCS 1969). It provides a digital soil survey on orthophotography and contains additional interpretive information.

Figure 1.—Location of Salem County in New Jersey.

General Nature of the County

This section provides general information about the survey area. It describes the land use, geology and physiography, and climate of the survey area.

Land Use

In 2000, Salem County had a population of 64,285 (Bureau of the Census 2000). Approximately 42 percent of the county is used for agricultural enterprises, 25 percent

is used as wetlands, 17 percent is forested, 9 percent is urbanized, and the remaining 7 percent is barren land (New Jersey Department of Environmental Protection 1986). The areas used for agricultural purposes are distributed throughout the county. In 2002, the primary agricultural products were livestock and poultry, vegetables, orchard crops, silage, and grain (USDA NASS 2004).

Geology and Physiography

Max Olynyk, state geologist, Natural Resources Conservation Service, helped to prepare this section.

Salem County is located within the Atlantic Coastal Plain Physiographic Province. It is underlain by unconsolidated coastal plain deposits of Quaternary, Tertiary, and Cretaceous age. These deposits are composed of alternating clay, silt, sand, and gravel and are underlain by crystalline rocks of Early Paleozoic or Late Precambrian age. They range in thickness from about 200 feet in the northwestern part of the county to about 2,400 feet in the extreme southeastern part of the county.

The Late Precambrian Wissahickon Formation is composed of schist and gneiss. These metamorphic rocks are generally characterized by having significant amounts of mica, quartz, feldspar, garnet, and chlorite.

Overlaying the Wissahickon Formation are several important aquifers. They are, in order from bottom to top, the Potomac Group and Raritan and Magothy Formations, the Wenonah Formation and Mount Laurel Sand, the Vincentown Formation, the Cohansey Sand, and the Cape May Formation.

The Potomac Group and Raritan Formation of early Cretaceous age are largely continental (formed from nonmarine deposits), while the Magothy Formation is both continental and marine in origin. The Potomac Group consists of interbedded sand, gravelly sand, and clay. The Raritan Formation is composed of sand, gravel, and some clay, while the Magothy Formation consists of alternating beds of pyritic and lignitic dark clay and white, micaceous quartz sand and fine gravel. The combined thickness of these formations reaches 1,000 feet in the southeastern part of the county.

The Wenonah Formation and overlying Mount Laurel Sand are of Cretaceous age. While the Wenonah Formation is characterized by micaceous sand that is occasionally lignitic and glauconitic, the medium to coarse grained glauconitic sands of the Mount Laurel Sand are much less micaceous and lignitic. The combined thickness of the formations is approximately 80 to 100 feet.

The Vincentown Formation of the Paleocene Epoch is a slightly clayey, medium grained sand. Quartz and feldspar are major constituents, and glauconite, mica, and pyrite are minor constituents. The Vincentown Formation is well known for being highly fossiliferous. The maximum thickness of the formation is approximately 160 feet.

The Kirkwood Formation of the Miocene Epoch overlies formations from the Eocene and Paleocene Epochs. It typically consists of dark clay having some silt and layers of fine grained sand with some areas of primary clays. Occasionally, fine grained sands may include beds of coarse grained sand with abundant glauconite. The Kirkwood Formation is overlain by the Cohansey Sand or material from the Quaternary age.

The Cohansey Sand of the Miocene and Pliocene Epochs underlies approximately 25 percent of Salem County. This medium to coarse grained sand contains occasional lenses of gravel and clay. A dip to the southeast ranges from 6 to 16 feet per mile. The thickness of this formation may reach 200 feet in the eastern part of Salem County.

The Cohansey Sand is the uppermost Tertiary Period Formation in the New Jersey Coastal Plain. It lies between the Kirkwood Formation and other younger deposits of the Pleistocene Epoch, which include the Cape May Formation. The medium to

coarse grained sands of the Cape May Formation are interspersed with abundant quantities of gravel but minor amounts of clay. The formation may reach a thickness of 150 feet in the southwestern part of Salem County (Rosenau and others 1969).

The relief of Salem County is low, and slopes are relatively gentle. The pre-Quaternary deposits dip gently to the southeast. A 4-mile strip of tidal marsh bordering the Delaware River has elevations of generally less than 10 feet. Farther inland, the land surface rises gradually to gently rolling hills. The highest areas are in the eastern part of the county where elevations reach 160 feet.

Salem County is drained by a network of streams, the largest of which, the Salem River, flows into the Delaware River. The extreme eastern part of the county is drained by the Maurice River, which flows southward through Cumberland County to the Delaware Bay. Other major streams discharge into the Delaware River.

Climate

Prepared by the National Water and Climate Center, Natural Resources Conservation Service, in Portland, Oregon.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Woodstown, New Jersey in the period 1961-90. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter, the average temperature is 33.7 degrees F and the average daily minimum temperature is 24.7 degrees. The lowest temperature on record, which occurred on January 22, 1984, is -13 degrees. In summer, the average temperature is 74.2 degrees and the average daily maximum temperature is 85.7 degrees. The highest recorded temperature, which occurred on July 3, 1966, is 103 degrees.

Growing degree days are shown in table 1. They are equivalent to “heat units.” During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 44.04 inches. Of this, about 23.5 inches, or 53 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 12.78 inches. The heaviest 1-day rainfall during the period of record was 6.92 inches on September 12, 1960. Thunderstorms occur on about 30 days each year, and most occur in June, July, and August.

The average seasonal snowfall is 19.2 inches. The greatest snow depth at any one time during the period of record was 25 inches. On the average, 19 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year. The heaviest 1-day snowfall on record was 17.0 inches on February 19, 1979.

The average relative humidity in midafternoon is about 55 percent. Humidity is higher at night, and the average at dawn is about 78 percent. The sun shines 62 percent of the time possible in summer and 51 percent in winter. The prevailing wind is from the northwest from October to April and from the south the remainder of the year. Average windspeed is highest, 11 miles per hour, in March and April.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length,

and shape of the slopes; the general pattern of drainage; and the kinds of crops and native plants. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Survey Procedures

The general procedures followed in making this survey are described in the "National Soil Survey Handbook" of the Natural Resources Conservation Service and in the "Soil Survey Manual" (Soil Survey Division Staff 1993; USDA NRCS 1996).

Before fieldwork began, preliminary boundaries of slopes and landforms were plotted stereoscopically on aerial photographs taken in 1996 and 1997 at a scale of 1:24,000. U.S. Geological Survey geologic and topographic maps, at a scale of 1:24,000, were also used. Map units were then designed according to the pattern of soils interpreted from aerial photographs, maps, and field observations.

Two levels of mapping intensity were used in this survey. More closely spaced observations were made on the landforms where the soils are used for agriculture, timber production, or urban development. Less closely spaced observations were made in forested wetlands and tidal flats where access was difficult. For either level of mapping intensity, the information about the soils can be used to determine soil management and to predict the suitability of the soils for various uses.

Traverses were made on foot. The soils were examined at intervals ranging from a few hundred feet to about 0.25 mile, depending on the landform and soil pattern. Observations of special features, such as landforms, vegetation, and evidence of flooding, were made continuously without regard to spacing. Soil boundaries were determined on the basis of soil examinations, observations, and aerial photo interpretation. In many areas, such as those where flood plains intersect with knolls, these boundaries are precise because of an abrupt change in the landform. The soils were examined with the aid of a hand probe, a bucket auger, or a spade to a depth of about 3 to 5 feet. The typical pedons were observed in pits dug by hand.

Soil boundaries were plotted stereoscopically on the basis of parent material, landform, and relief. Many of these boundaries cannot be exact because they fall within a zone of gradual change between landforms, such as an area where the lowest part of a flat begins to become a slight depression. Much intermingling of the soils occurs in these zones.

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis

of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Manahawkin muck, 0 to 2 percent slopes, frequently flooded, is a phase of the Manahawkin series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Downer-Galestown complex, 0 to 5 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Berryland and Mullica soils, 0 to 2 percent slopes, occasionally flooded, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. The map unit Pits, sand and gravel, is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

AdkB—Adelphia sandy loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Low hills

Composition

Adelphia and similar soils: 85 percent
Minor components: 15 percent

Description of the Adelphia Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; sandy loam

Subsoil:
BA—10 to 14 inches; sandy loam
Bt—14 to 56 inches; sandy clay loam

Substratum:
C—56 to 72 inches; stratified loamy sand and sandy loam

Properties and qualities
Drainage class: Moderately well drained
Parent material: Glauconite-bearing loamy eolian deposits or glauconite-bearing loamy fluviomarine deposits, or both
Permeability: Moderate to rapid
Available water capacity: High

Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2w
Hydrologic group: C

Minor Components

- The poorly drained Shrewsbury soils that have a similar content of glauconite; on the lower landforms
- The well drained Freehold soils that have a lower content of glauconite; on the slightly higher landforms

AhmB—Alloway sandy loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges

Composition

Alloway and similar soils: 90 percent
Minor components: 10 percent

Description of the Alloway Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; sandy loam

Subsoil:
Bt1—10 to 18 inches; loam
Bt2—18 to 24 inches; silty clay loam
Bt3—24 to 39 inches; clay
Bt4—39 to 49 inches; clay

Substratum:
C—49 to 72 inches; clay

Properties and qualities
Drainage class: Moderately well drained
Parent material: Silty and clayey eolian deposits or fluviomarine deposits, or both
Permeability: Slow to moderate
Available water capacity: High
Reaction: Very strongly acid to slightly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: B

Minor Components

- The well drained Sassafras soils that have a fine-loamy particle-size control section; on the higher ridges and hillslopes
- The moderately well drained Woodstown soils that have a fine-loamy particle-size control section; on similar landforms

AhpB—Alloway loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges

Composition

Alloway and similar soils: 90 percent
Minor components: 10 percent

Description of the Alloway Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; loam

Subsoil:
Bt1—10 to 18 inches; loam
Bt2—18 to 24 inches; silty clay loam
Bt3—24 to 39 inches; clay
Bt4—39 to 49 inches; clay

Substratum:
C—49 to 72 inches; clay

Properties and qualities
Drainage class: Moderately well drained
Parent material: Silty and clayey eolian deposits or fluviomarine deposits, or both
Permeability: Slow to moderate
Available water capacity: High
Reaction: Very strongly acid to slightly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2w
Hydrologic group: B

Minor Components

- The well drained Sassafras soils that have a fine-loamy particle-size control section; on the higher ridges and hillslopes
- The moderately well drained Woodstown soils that have a fine-loamy particle-size control section; on similar landforms

AhpC—Alloway loam, 5 to 10 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges

Composition

Alloway and similar soils: 90 percent
Minor components: 10 percent

Description of the Alloway Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; loam

Subsoil:
Bt1—10 to 18 inches; loam
Bt2—18 to 24 inches; silty clay loam
Bt3—24 to 39 inches; clay
Bt4—39 to 49 inches; clay

Substratum:
C—49 to 72 inches; clay

Properties and qualities
Drainage class: Moderately well drained
Parent material: Silty and clayey eolian deposits or fluviomarine deposits, or both
Permeability: Slow to moderate
Available water capacity: High
Reaction: Very strongly acid to slightly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 3e
Hydrologic group: B

Minor Components

- The well drained Sassafras soils that have a fine-loamy particle-size control section; on the higher ridges and hillslopes
- The moderately well drained Woodstown soils that have a fine-loamy particle-size control section; on similar landforms

AhrA—Alloway silt loam, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges

Composition

Alloway and similar soils: 90 percent
Minor components: 10 percent

Description of the Alloway Soil

Typical profile
Surface layer:
Ap—0 to 11 inches; silt loam

Subsoil:
Bt1—11 to 18 inches; silty clay loam
Bt2—18 to 24 inches; silty clay loam
Bt3—24 to 32 inches; clay loam
Bt4—32 to 39 inches; clay loam
Bt5—39 to 48 inches; clay loam
Bt6—48 to 65 inches; clay

Substratum:
C—65 to 80 inches; clay

Properties and qualities
Drainage class: Moderately well drained
Parent material: Silty and clayey eolian deposits or fluviomarine deposits, or both

Permeability: Slow and moderately slow
Available water capacity: High
Reaction: Very strongly acid to slightly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2w
Hydrologic group: B

Minor Components

- The poorly drained Trussum soils that have a seasonal high water table within a depth of 12 inches; in the lower lying landscape positions

AhrB—Alloway silt loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges

Composition

Alloway and similar soils: 90 percent
Minor components: 10 percent

Description of the Alloway Soil

Typical profile
Surface layer:
Ap—0 to 11 inches; silt loam

Subsoil:
Bt1—11 to 18 inches; silty clay loam
Bt2—18 to 24 inches; silty clay loam
Bt3—24 to 32 inches; clay loam
Bt4—32 to 39 inches; clay loam
Bt5—39 to 48 inches; clay loam
Bt6—48 to 65 inches; clay

Substratum:
C—65 to 80 inches; clay

Properties and qualities
Drainage class: Moderately well drained
Parent material: Silty and clayey eolian deposits or fluviomarine deposits, or both
Permeability: Slow and moderately slow
Available water capacity: High
Reaction: Very strongly acid to slightly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: B

Minor Components

- The poorly drained Trussum soils that have a seasonal high water table within a depth of 12 inches; in the lower lying landscape positions

ApbAv—Appoquinimink-Broadkill complex, 0 to 1 percent slopes, very frequently flooded

Setting

Landscape: North Atlantic Coastal Plain
Landform: Tidal flats

Composition

Appoquinimink and similar soils: 60 percent
Broadkill and similar soils: 30 percent
Minor components: 10 percent

Description of the Appoquinimink Soil

Typical profile
Surface layer:
Ag—0 to 6 inches; mucky silt loam

Substratum:
Cg1—6 to 21 inches; silt loam
Cg2—21 to 32 inches; silt loam
Oa—32 to 43 inches; muck
Oe—43 to 80 inches; mucky peat

Properties and qualities
Drainage class: Very poorly drained
Parent material: Loamy fluviomarine deposits over herbaceous organic material
Permeability: Moderate
Available water capacity: Very high
Reaction: Moderately acid to neutral (unincubated)
Ponding depth: 0 to 12 inches above the surface
Seasonal high water table: At the surface
Flooding: Very frequent (fig. 2)

Interpretive groups
Land capability classification (in nonirrigated areas): 8w
Hydrologic group: D

Description of the Broadkill Soil

Typical profile
Surface layer:
Oe—0 to 6 inches; mucky peat
Ag—6 to 10 inches; silt loam

Substratum:
Cg1—10 to 30 inches; silt loam
Cg2—30 to 45 inches; silty clay loam
2Cg—45 to 72 inches; sandy loam

Properties and qualities
Drainage class: Very poorly drained
Parent material: Loamy marine deposits
Permeability: Moderate to rapid
Available water capacity: Very high
Reaction: Moderately acid to neutral (unincubated)
Ponding depth: 0 to 12 inches above the surface

Figure 2.—Grasses tolerant of saline conditions growing in a tidal marsh in an area of Appoquinimink-Broadkill complex, 0 to 1 percent slopes, very frequently flooded. This map unit is subject to daily tidal flooding.

Seasonal high water table: At the surface
Flooding: Very frequent

Interpretive groups
Land capability classification (in nonirrigated areas): 8w
Hydrologic group: D

Minor Components

- The very poorly drained Transquaking soils that have an organic surface layer and a subsurface layer more than 51 inches thick

AucB—Aura loamy sand, 0 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Aura and similar soils: 90 percent
Minor components: 10 percent

Description of the Aura Soil

Typical profile
Surface layer:
Ap—0 to 7 inches; loamy sand

Subsoil:
Bt—7 to 22 inches; coarse sandy loam
2Btx1—22 to 28 inches; gravelly coarse sandy loam
2Btx2—28 to 59 inches; gravelly sandy clay loam

Substratum:
2C—59 to 80 inches; gravelly loamy coarse sand

Properties and qualities
Drainage class: Well drained
Parent material: Old loamy alluvium or old gravelly alluvium
Permeability: Moderately slow to rapid
Available water capacity: Very low
Reaction: Extremely acid to slightly acid
Depth to a fragipan: 15 to 40 inches
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2s
Hydrologic group: B

Minor Components

- Sassafras soils that do not have a fragipan and have a fine-loamy particle-size control section; on the slightly lower parts of similar landforms
- The moderately well drained Woodstown soils that have a seasonal high water table at a depth of 18 to 42 inches and do not have a fragipan; on the lower landforms

AugB—Aura sandy loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Aura and similar soils: 85 percent
Minor components: 15 percent

Description of the Aura Soil

Typical profile
Surface layer:
Ap—0 to 8 inches; sandy loam

Subsoil:
Bt1—8 to 13 inches; coarse sandy loam
Bt2—13 to 22 inches; coarse sandy loam
2Btx1—22 to 28 inches; gravelly coarse sandy loam
2Btx2—28 to 44 inches; gravelly sandy clay loam
2Btx3—44 to 59 inches; gravelly sandy clay loam

Substratum:
2C—59 to 80 inches; gravelly loamy coarse sand

Properties and qualities
Drainage class: Well drained
Parent material: Old loamy alluvium or old gravelly alluvium
Permeability: Moderately slow to moderately rapid

Available water capacity: Very low
Reaction: Extremely acid and very strongly acid
Depth to a fragipan: 15 to 40 inches
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: B

Minor Components

- Sassafras soils that do not have a fragipan and have a fine-loamy particle-size control section; on the slightly lower parts of similar landforms
- Downer soils that do not have a fragipan; on the lower landforms
- The moderately well drained Woodstown soils that have a seasonal high water table at a depth of 18 to 42 inches and do not have a fragipan; on the lower landforms

AugC—Aura sandy loam, 5 to 10 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Low hills

Composition

Aura and similar soils: 90 percent
Minor components: 10 percent

Description of the Aura Soil

Typical profile
Surface layer:
Ap—0 to 8 inches; sandy loam

Subsoil:
Bt1—8 to 13 inches; coarse sandy loam
Bt2—13 to 22 inches; coarse sandy loam
2Btx1—22 to 28 inches; gravelly coarse sandy loam
2Btx2—28 to 44 inches; gravelly sandy clay loam
2Btx3—44 to 59 inches; gravelly sandy clay loam

Substratum:
2C—59 to 80 inches; gravelly loamy coarse sand

Properties and qualities
Drainage class: Well drained
Parent material: Old loamy alluvium or old gravelly alluvium
Permeability: Moderately slow to moderately rapid
Available water capacity: Very low
Reaction: Extremely acid and very strongly acid
Depth to a fragipan: 15 to 40 inches
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 3e
Hydrologic group: B

Minor Components

- Sassafras soils that do not have a fragipan and have a fine-loamy particle-size control section; on the slightly lower parts of similar landforms
- Downer soils that do not have a fragipan; on the lower landforms

AuhB—Aura gravelly sandy loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Aura and similar soils: 90 percent
Minor components: 10 percent

Description of the Aura Soil

Typical profile
Surface layer:
A—0 to 8 inches; gravelly sandy loam

Subsoil:
BA—8 to 12 inches; gravelly sandy loam
Bt—12 to 20 inches; gravelly sandy clay loam
2Btx—20 to 36 inches; gravelly sandy clay loam

Substratum:
2C1—36 to 40 inches; gravelly sand
2C2—40 to 72 inches; gravelly sand

Properties and qualities
Drainage class: Well drained
Parent material: Old loamy alluvium or old gravelly alluvium (fig. 3)
Permeability: Moderately slow to rapid
Available water capacity: Very low
Reaction: Extremely acid and very strongly acid
Depth to a fragipan: 15 to 40 inches
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: B

Minor Components

- Sassafras soils that do not have a fragipan and have a fine-loamy particle-size control section; on the slightly lower parts of similar landforms
- Downer soils that do not have a fragipan; on the lower landforms

AuhC—Aura gravelly sandy loam, 5 to 10 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Figure 3.—An area of Aura gravelly sandy loam, 2 to 5 percent slopes, used for spinach. Most vegetable crops require a high level of management to maintain quality and high yields. This soil is considered prime farmland in Salem County.

Composition

Aura and similar soils: 90 percent
Minor components: 10 percent

Description of the Aura Soil

Typical profile
Surface layer:
A—0 to 8 inches; gravelly sandy loam

Subsoil:
BA—8 to 12 inches; gravelly sandy loam
Bt—12 to 20 inches; gravelly sandy clay loam
2Btx—20 to 36 inches; gravelly sandy clay loam

Substratum:
2C1—36 to 40 inches; gravelly sand
2C2—40 to 72 inches; gravelly sand

Properties and qualities
Drainage class: Well drained
Parent material: Old loamy alluvium or old gravelly alluvium
Permeability: Moderately slow to rapid
Available water capacity: Very low
Reaction: Extremely acid and very strongly acid
Depth to a fragipan: 15 to 40 inches
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 3e
Hydrologic group: B

Minor Components

- Sassafras soils that do not have a fragipan and have a fine-loamy particle-size control section; on the slightly lower parts of similar landforms

- Downner soils that do not have a fragipan; on the lower landforms

AupA—Aura loam, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Aura and similar soils: 85 percent
Minor components: 15 percent

Description of the Aura Soil

Typical profile
Surface layer:
Ap—0 to 8 inches; loam

Subsoil:
Bt1—8 to 13 inches; coarse sandy loam
Bt2—13 to 22 inches; coarse sandy loam
2Btx1—22 to 28 inches; gravelly coarse sandy loam
2Btx2—28 to 44 inches; gravelly sandy clay loam
2Btx3—44 to 59 inches; gravelly sandy clay loam

Substratum:
2C—59 to 80 inches; gravelly loamy coarse sand

Properties and qualities
Drainage class: Well drained
Parent material: Old loamy alluvium or old gravelly alluvium
Permeability: Moderately slow to moderately rapid
Available water capacity: Very low
Reaction: Extremely acid to slightly acid
Depth to a fragipan: 15 to 40 inches
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 1
Hydrologic group: B

Minor Components

- Sassafras soils that do not have a fragipan and have a fine-loamy particle-size control section; on the slightly lower parts of similar landforms
- Downer soils that do not have a fragipan; on the lower landforms
- The moderately well drained Woodstown soils that have a seasonal high water table at a depth of 18 to 42 inches and do not have a fragipan; on the lower landforms

AupB—Aura loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Aura and similar soils: 85 percent
Minor components: 15 percent

Description of the Aura Soil

Typical profile
Surface layer:
Ap—0 to 8 inches; loam

Subsoil:
Bt1—8 to 13 inches; coarse sandy loam
Bt2—13 to 22 inches; coarse sandy loam
2Btx1—22 to 28 inches; gravelly coarse sandy loam
2Btx2—28 to 44 inches; gravelly sandy clay loam
2Btx3—44 to 59 inches; gravelly sandy clay loam

Substratum:
2C—59 to 80 inches; gravelly loamy coarse sand

Properties and qualities
Drainage class: Well drained
Parent material: Old loamy alluvium or old gravelly alluvium
Permeability: Moderately slow to moderately rapid
Available water capacity: Very low
Reaction: Extremely acid to slightly acid
Depth to a fragipan: 15 to 40 inches
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: B

Minor Components

- Sassafras soils that do not have a fragipan and have a fine-loamy particle-size control section; on the slightly lower parts of similar landforms
- Downer soils that do not have a fragipan; on the lower landforms
- The moderately well drained Woodstown soils that have a seasonal high water table at a depth of 18 to 42 inches and do not have a fragipan; on the lower landforms

BEXAS—Berryland and Mullica soils, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape: North Atlantic Coastal Plain
Landform: Depressions, drainageways, and flats

Composition

Berryland and similar soils: 50 percent
Mullica and similar soils: 40 percent
Minor components: 10 percent

Description of the Berryland Soil

Typical profile
Surface layer:
Ag—0 to 11 inches; sand

Subsoil:
Bh—11 to 19 inches; sand
Bg—19 to 32 inches; sand
B'h—32 to 40 inches; sand

Substratum:
Cg1—40 to 44 inches; sand
Cg2—44 to 80 inches; stratified sand to sandy loam

Properties and qualities
Drainage class: Very poorly drained
Parent material: Sandy fluviomarine deposits
Permeability: Rapid
Available water capacity: Low
Reaction: Extremely acid to strongly acid
Ponding depth: 0 to 12 inches above the surface
Seasonal high water table: Within a depth of 6 inches
Flooding: Occasional

Interpretive groups
Land capability classification (in nonirrigated areas): 5w
Hydrologic group: B/D

Description of the Mullica Soil

Typical profile
Surface layer:
Oe—0 to 2 inches; mucky peat
Ag—2 to 9 inches; sandy loam

Subsoil:
Bg1—9 to 14 inches; sandy loam
Bg2—14 to 28 inches; sandy loam

Substratum:
Cg1—28 to 31 inches; loamy sand
Cg2—31 to 40 inches; sand
Cg3—40 to 80 inches; gravelly loamy sand

Properties and qualities
Drainage class: Very poorly drained
Parent material: Sandy fluviomarine deposits or loamy fluviomarine deposits, or both
Permeability: Moderately rapid and rapid
Available water capacity: Moderate
Reaction: Extremely acid and very strongly acid
Ponding depth: 0 to 12 inches above the surface
Seasonal high water table: Within a depth of 6 inches
Flooding: Occasional

Interpretive groups
Land capability classification (in nonirrigated areas): 4w
Hydrologic group: D

Minor Components

- The very poorly drained, organic Manahawkin soils; on the lower landforms
- The poorly drained Atsion soils that do not have an umbric epipedon; on the slightly higher landforms

ChsAt—Chicone silt loam, 0 to 1 percent slopes, frequently flooded

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flood plains

Composition

Chicone and similar soils: 95 percent
Minor components: 5 percent

Description of the Chicone Soil

Typical profile
Surface layer:
A—0 to 5 inches; silt loam

Substratum:
Cg1—5 to 20 inches; silt loam
Cg2—20 to 28 inches; silt loam
Oe—28 to 65 inches; mucky peat
C'g—65 to 80 inches; sand

Properties and qualities
Drainage class: Very poorly drained
Parent material: Silty alluvium over organic woody materials
Permeability: Moderate to rapid
Available water capacity: Very high
Reaction: Extremely acid to strongly acid
Ponding depth: 0 to 12 inches above the surface
Seasonal high water table: Within a depth of 6 inches
Flooding: Frequent

Interpretive groups
Land capability classification (in nonirrigated areas): 5w
Hydrologic group: D

Minor Components

- The very poorly drained, organic Manahawkin soils; on the lower landforms

ChtA—Chillum silt loam, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges and terraces

Composition

Chillum and similar soils: 85 percent
Minor components: 15 percent

Description of the Chillum Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; silt loam

Subsoil:
Bt1—10 to 15 inches; silt loam

Bt2—15 to 28 inches; silt loam
Bt3—28 to 34 inches; silt loam
BC—34 to 38 inches; loam

Substratum:
2C1—38 to 61 inches; sandy loam
2C2—61 to 66 inches; sandy loam
3C3—66 to 72 inches; sand

Properties and qualities
Drainage class: Well drained
Parent material: Silty eolian deposits over loamy marine deposits
Permeability: Moderate to rapid
Available water capacity: High
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 1
Hydrologic group: B

Minor Components

- Matapeake soils that do not have a dense, compact 2C horizon that is firm or very firm; on similar landforms
- The moderately well drained Mattapex soils that do not have a dense, compact 2C horizon that is firm or very firm and have a seasonal high water table at a depth of 18 to 36 inches; on the slightly lower landforms

ChtB—Chillum silt loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges and terraces

Composition

Chillum and similar soils: 85 percent
Minor components: 15 percent

Description of the Chillum Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; silt loam

Subsoil:
Bt1—10 to 15 inches; silt loam
Bt2—15 to 28 inches; silt loam
Bt3—28 to 34 inches; silt loam
BC—34 to 38 inches; loam

Substratum:
2C1—38 to 61 inches; sandy loam
2C2—61 to 66 inches; sandy loam
3C3—66 to 72 inches; sand

Properties and qualities
Drainage class: Well drained
Parent material: Silty eolian deposits over loamy marine deposits

Permeability: Moderate to rapid
Available water capacity: High
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: B

Minor Components

- Matapeake soils that do not have a dense, compact 2C horizon that is firm or very firm; on similar landforms
- The moderately well drained Mattapex soils that do not have a dense, compact 2C horizon that is firm or very firm and have a seasonal high water table at a depth of 18 to 36 inches; on the slightly lower landforms

DocB—Downer loamy sand, 0 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Downer and similar soils: 80 percent
Minor components: 20 percent

Description of the Downer Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; loamy sand

Subsoil:
BA—10 to 16 inches; loamy sand
Bt—16 to 36 inches; sandy loam

Substratum:
C1—36 to 48 inches; loamy sand
C2—48 to 80 inches; stratified sand to sandy loam

Properties and qualities
Drainage class: Well drained
Parent material: Loamy or gravelly fluviomarine deposits, or both
Permeability: Moderately rapid and rapid
Available water capacity: Moderate
Reaction: Extremely acid to neutral
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2s
Hydrologic group: B

Minor Components

- Sassafras soils that have a fine-loamy particle-size control section; on similar landforms
- Evesboro soils that have a sandy particle-size control section and do not have an argillic horizon; on the slightly higher landforms

- Hammonton soils that have low-chroma depletions and have a seasonal high water table at a depth of 18 to 42 inches; in the lower lying landscape positions

DocC—Downer loamy sand, 5 to 10 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flats, knolls, and low hills

Composition

Downer and similar soils: 85 percent
Minor components: 15 percent

Description of the Downer Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; loamy sand

Subsoil:
BA—10 to 16 inches; loamy sand
Bt—16 to 36 inches; sandy loam

Substratum:
C1—36 to 48 inches; loamy sand
C2—48 to 80 inches; stratified sand to sandy loam

Properties and qualities
Drainage class: Well drained
Parent material: Loamy or gravelly fluviomarine deposits, or both
Permeability: Moderately rapid and rapid
Available water capacity: Moderate
Reaction: Extremely acid to neutral
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 3e
Hydrologic group: B

Minor Components

- Sassafras soils that have a fine-loamy particle-size control section; on similar landforms
- Evesboro soils that have a sandy particle-size control section and do not have an argillic horizon; on the slightly higher landforms
- Hammonton soils that have low-chroma depletions and have a seasonal high water table at a depth of 18 to 42 inches; in the lower lying landscape positions

DoeA—Downer sandy loam, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Downer and similar soils: 85 percent
Minor components: 15 percent

Description of the Downer Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; sandy loam

Subsoil:
Bt1—10 to 16 inches; sandy loam
Bt2—16 to 36 inches; sandy loam

Substratum:
C1—36 to 48 inches; loamy sand
C2—48 to 80 inches; stratified sand to sandy loam

Properties and qualities
Drainage class: Well drained
Parent material: Loamy or gravelly fluviomarine deposits, or both
Permeability: Moderately rapid and rapid
Available water capacity: Moderate
Reaction: Extremely acid to neutral
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 1
Hydrologic group: B

Minor Components

- Sassafras soils that have a fine-loamy particle-size control section; on similar landforms
- Woodstown soils that have a seasonal high water table at a depth of 18 to 42 inches and have a fine-loamy particle-size control section; on similar landforms

DoeB—Downer sandy loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Downer and similar soils: 90 percent
Minor components: 10 percent

Description of the Downer Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; sandy loam

Subsoil:
Bt1—10 to 16 inches; sandy loam
Bt2—16 to 36 inches; sandy loam

Substratum:
C1—36 to 48 inches; loamy sand
C2—48 to 80 inches; stratified sand to sandy loam

Properties and qualities
Drainage class: Well drained
Parent material: Loamy or gravelly fluviomarine deposits, or both

Permeability: Moderately rapid and rapid
Available water capacity: Moderate
Reaction: Extremely acid to neutral
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: B

Minor Components

- Sassafras soils that have a fine-loamy particle-size control section; on similar landforms
- Woodstown soils that have a seasonal high water table at a depth of 18 to 42 inches and have a fine-loamy particle-size control section; on similar landforms

DopB—Downer-Galestown complex, 0 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flats, knolls, and low hills

Composition

Downer and similar soils: 55 percent
Galestown and similar soils: 35 percent
Minor components: 10 percent

Description of the Downer Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; loamy sand

Subsoil:
BA—10 to 16 inches; loamy sand
Bt—16 to 36 inches; sandy loam

Substratum:
C1—36 to 48 inches; loamy sand
C2—48 to 80 inches; stratified sand to sandy loam

Properties and qualities
Drainage class: Well drained
Parent material: Loamy or gravelly fluviomarine deposits, or both
Permeability: Moderately rapid and rapid
Available water capacity: Moderate
Reaction: Extremely acid to neutral
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2s
Hydrologic group: B

Description of the Galestown Soil

Typical profile
Surface layer:
A—0 to 10 inches; loamy sand

Subsoil:
Bt—10 to 50 inches; loamy sand

Substratum:
C—50 to 72 inches; gravelly loamy sand

Properties and qualities
Drainage class: Somewhat excessively drained
Parent material: Sandy marine deposits
Permeability: Rapid
Available water capacity: Low
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 3s
Hydrologic group: A

Minor Components

- Evesboro soils that have a sandy particle-size control section and do not have an argillic horizon; on the slightly higher landforms
- Hammonton soils that have low-chroma depletions and have a seasonal high water table at a depth of 18 to 42 inches; in the lower lying landscape positions

DouB—Downer-Urban land complex, 0 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Downer and similar soils: 60 percent
Urban land and similar components: 30 percent
Minor components: 10 percent

Description of the Downer Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; sandy loam

Subsoil:
Bt1—10 to 16 inches; sandy loam
Bt2—16 to 36 inches; sandy loam

Substratum:
C1—36 to 48 inches; loamy sand
C2—48 to 80 inches; stratified sand to sandy loam

Properties and qualities
Drainage class: Well drained
Parent material: Loamy or gravelly fluviomarine deposits, or both
Permeability: Moderately rapid and rapid
Available water capacity: Moderate
Reaction: Extremely acid to slightly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: B

Description of Urban Land

Urban land consists of areas where much of the soil surface is covered with asphalt, concrete, buildings, or other impervious cover. A description of the typical sequence, depth, and composition of the soil material is not provided because the soil material varies greatly from place to place.

Interpretive groups
Land capability classification (in nonirrigated areas): 8s
Hydrologic group: Not specified

Minor Components

- Sassafras soils that have a fine-loamy particle-size control section; on similar landforms
- Woodstown soils that have a seasonal high water table at a depth of 18 to 42 inches and have a fine-loamy particle-size control section; on similar landforms

EveB—Evesboro sand, 0 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Evesboro and similar soils: 80 percent
Minor components: 20 percent

Description of the Evesboro Soil

Typical profile
Surface layer:
A—0 to 4 inches; sand

Subsurface layer:
AB—4 to 17 inches; sand

Subsoil:
Bw—17 to 31 inches; sand

Substratum:
C—31 to 80 inches; stratified loamy sand and sand

Properties and qualities
Drainage class: Excessively drained
Parent material: Sandy eolian deposits or sandy fluviomarine deposits, or both
Permeability: Rapid
Available water capacity: Low
Reaction: Extremely acid and very strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 7s
Hydrologic group: A

Minor Components

- Downer soils that have a coarse-loamy particle-size control section and have an argillic horizon; on similar landforms
- The moderately well drained Lakehurst soils that have a seasonal high water table at a depth of 18 to 42 inches and have a thin spodic horizon; on the lower landforms

EveC—Evesboro sand, 5 to 10 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Evesboro and similar soils: 95 percent
Minor components: 5 percent

Description of the Evesboro Soil

Typical profile
Surface layer:
A—0 to 4 inches; sand

Subsurface layer:
AB—4 to 17 inches; sand

Subsoil:
Bw—17 to 31 inches; sand

Substratum:
C—31 to 80 inches; stratified loamy sand and sand

Properties and qualities
Drainage class: Excessively drained
Parent material: Sandy eolian deposits or sandy fluviomarine deposits, or both
Permeability: Rapid
Available water capacity: Low
Reaction: Extremely acid and very strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 7s
Hydrologic group: A

Minor Components

- Downer soils that have a coarse-loamy particle-size control section and have an argillic horizon; on similar landforms

FmhAt—Fluvaquents, loamy, 0 to 3 percent slopes, frequently flooded

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flood plains

Composition

Fluvaquents and similar soils: 90 percent
Minor components: 10 percent

Description of the Fluvaquents

Typical profile
Surface layer:
A1—0 to 5 inches; loam
A2—5 to 12 inches; silt loam

Substratum:
C1—12 to 18 inches; sandy clay loam
C2—18 to 24 inches; sandy clay loam
C3—24 to 60 inches; sandy loam

Properties and qualities
Drainage class: Somewhat poorly drained
Parent material: Loamy alluvium
Permeability: Moderate and moderately rapid
Available water capacity: Moderate
Reaction: Strongly acid to neutral
Ponding depth: 0 to 6 inches above the surface
Depth to the seasonal high water table: 6 to 18 inches
Flooding: Frequent

Interpretive groups
Land capability classification (in nonirrigated areas): 5w
Hydrologic group: B/D

Minor Components

- Udifluvents; on the higher landforms
- Poorly drained Fluvaquents; on the lower landforms

FodB—Fort Mott loamy sand, 0 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges and terraces

Composition

Fort Mott and similar soils: 85 percent
Minor components: 15 percent

Description of the Fort Mott Soil

Typical profile
Surface layer:
Ap—0 to 8 inches; loamy sand

Subsurface layer:
E—8 to 30 inches; loamy sand

Subsoil:
BE—30 to 33 inches; sandy loam
Bt—33 to 49 inches; sandy loam

Substratum:
C—49 to 72 inches; loamy sand

Properties and qualities
Drainage class: Well drained
Parent material: Sandy eolian deposits or fluviomarine deposits, or both
Permeability: Moderately rapid and rapid
Available water capacity: Low
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 3s
Hydrologic group: A

Minor Components

- Downer soils that do not have a 20- to 40-inch-thick sandy surface layer and have a coarse-loamy particle-size control section; on similar landforms
- Galestown soils that have a sandy particle-size control section; on the slightly higher landforms

GabB—Galestown sand, 0 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges and terraces

Composition

Galestown and similar soils: 85 percent
Minor components: 15 percent

Description of the Galestown Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; sand
A—10 to 23 inches; loamy sand

Subsoil:
Bt—23 to 30 inches; loamy sand
BC—30 to 38 inches; loamy sand

Substratum:
C—38 to 60 inches; sand

Properties and qualities
Drainage class: Somewhat excessively drained
Parent material: Sandy marine deposits
Permeability: Rapid
Available water capacity: Low
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 7s

Hydrologic group: A

Minor Components

- The well drained Downer soils that have a coarse-loamy particle-size control section; on similar landforms
- Aura soils that have a fine-loamy particle-size control section and have a fragipan; on similar landforms
- The moderately well drained Galloway soils; on similar landforms

GamB—Galloway loamy sand, 0 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Depressions, flats, and terraces

Composition

Galloway and similar soils: 85 percent
Minor components: 15 percent

Description of the Galloway Soil

Typical profile
Surface layer:
A—0 to 2 inches; loamy sand

Subsurface layer:
E—2 to 10 inches; loamy sand

Subsoil:
Bw1—10 to 24 inches; loamy sand
Bw2—24 to 36 inches; loamy sand

Substratum:
Cg1—36 to 52 inches; sand
Cg2—52 to 60 inches; sand

Properties and qualities
Drainage class: Somewhat poorly drained
Parent material: Unconsolidated sandy marine deposits
Permeability: Rapid
Available water capacity: Low
Reaction: Extremely acid and very strongly acid
Depth to the seasonal high water table: 12 to 18 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 3w
Hydrologic group: A

Minor Components

- The poorly drained Atsion soils that are Spodosols having thicker A, E, and Bh horizons; on similar landforms
- The well drained Downer soils that have a coarse-loamy particle-size control section; on the higher landforms
- The very poorly drained Mullica soils that have a coarse-loamy particle-size control section; on the lower landforms

HbmB—Hammonton loamy sand, 0 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Depressions and flats

Composition

Hammonton and similar soils: 80 percent
Minor components: 20 percent

Description of the Hammonton Soil

Typical profile
Surface layer:
Ap—0 to 8 inches; loamy sand

Subsurface layer:
E—8 to 18 inches; loamy sand

Subsoil:
Bt—18 to 36 inches; sandy loam

Substratum:
C—36 to 80 inches; sand

Properties and qualities
Drainage class: Moderately well drained
Parent material: Coarse-loamy fluviomarine deposits
Permeability: Moderately rapid and rapid
Available water capacity: Moderate
Reaction: Extremely acid to moderately acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2w
Hydrologic group: B

Minor Components

- Downer soils that have a seasonal high water table at a depth of more than 72 inches; on the slightly higher landforms
- Glassboro soils that have a seasonal high water table at a depth of 12 to 18 inches; on the slightly higher landforms

HboA—Hammonton sandy loam, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Depressions and flats

Composition

Hammonton and similar soils: 85 percent
Minor components: 15 percent

Description of the Hammonton Soil

Typical profile
Surface layer:
Ap—0 to 8 inches; sandy loam

Subsurface layer:
E—8 to 18 inches; sandy loam

Subsoil:
Bt—18 to 36 inches; sandy loam

Substratum:
C—36 to 60 inches; sand

Properties and qualities
Drainage class: Moderately well drained
Parent material: Coarse-loamy fluviomarine deposits
Permeability: Moderately rapid and rapid
Available water capacity: Moderate
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2w
Hydrologic group: B

Minor Components

- Mullica soils that have a seasonal high water table within a depth of 12 inches; on the lower landforms
- Atsion soils that have a seasonal high water table at a depth of 6 to 12 inches and have a sandy particle-size control section; on the lower landforms

HbrB—Hammonton-Urban land complex, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Depressions and flats

Composition

Hammonton and similar soils: 70 percent
Urban land and similar components: 20 percent
Minor components: 10 percent

Description of the Hammonton Soil

Typical profile
Surface layer:
Ap—0 to 8 inches; loamy sand

Subsurface layer:
E—8 to 18 inches; loamy sand

Subsoil:
Bt—18 to 36 inches; sandy loam

Substratum:
C—36 to 80 inches; sand

Properties and qualities
Drainage class: Moderately well drained
Parent material: Coarse-loamy fluviomarine deposits
Permeability: Moderately rapid and rapid

Available water capacity: Moderate
Reaction: Extremely acid to moderately acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2w
Hydrologic group: B

Description of Urban Land

Urban land consists of areas where much of the soil surface is covered with asphalt, concrete, buildings, or other impervious cover. A description of the typical sequence, depth, and composition of the soil material is not provided because the soil material varies greatly from place to place.

Interpretive groups
Land capability classification (in nonirrigated areas): 8s
Hydrologic group: Not specified

Minor Components

- Downer soils that have a seasonal high water table at a depth of more than 72 inches; on the slightly higher landforms
- Glassboro soils that have a seasonal high water table at a depth of 12 to 18 inches; on the slightly higher landforms

KeoC—Keyport loam, 5 to 10 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Depressions, flats, and knolls

Composition

Keyport and similar soils: 90 percent
Minor components: 10 percent

Description of the Keyport Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; loam

Subsoil:
BA—10 to 16 inches; loam
Bt—16 to 24 inches; clay loam
BC—24 to 38 inches; clay loam

Substratum:
C—38 to 60 inches; clay loam

Properties and qualities
Drainage class: Moderately well drained
Parent material: Clayey marine deposits
Permeability: Slow to moderate
Available water capacity: High
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 3e
Hydrologic group: C

Minor Components

- Sassafras soils that have a seasonal high water table at a depth of more than 72 inches and have a fine-loamy particle-size control section; on the slightly higher landforms
- Collington soils that have a fine-loamy particle-size control section; on similar landforms

MakAt—Manahawkin muck, 0 to 2 percent slopes, frequently flooded

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flood plains and swamps

Composition

Manahawkin and similar soils: 85 percent
Minor components: 15 percent

Description of the Manahawkin Soil

Typical profile
Surface layer:
Oa1—0 to 13 inches; muck
Oa2—13 to 26 inches; muck
Oa3—26 to 47 inches; muck

Substratum:
Cg—47 to 80 inches; sand

Properties and qualities
Drainage class: Very poorly drained
Parent material: Organic, woody material over sandy alluvium
Permeability: Rapid
Available water capacity: Very high
Reaction: Very strongly acid to moderately acid
Ponding depth: 0 to 12 inches above the surface
Seasonal high water table: Within a depth of 6 inches
Flooding: Frequent

Interpretive groups
Land capability classification (in nonirrigated areas): 7w
Hydrologic group: D

Minor Components

- The poorly drained Atsion soils, which are mineral soils with a spodic horizon and a sandy particle-size control section; on the higher landforms
- The very poorly drained Berryland soils, which are mineral soils with a spodic horizon and a sandy particle-size control section; on the slightly higher landforms
- The very poorly drained Mullica soils, which are mineral soils with a coarse-loamy particle-size control section; on the slightly higher landforms

MamnAv—Mannington-Nanticoke complex, 0 to 1 percent slopes, very frequently flooded

Setting

Landscape: North Atlantic Coastal Plain
Landform: Tidal flats

Composition

Mannington and similar soils: 55 percent
Nanticoke and similar soils: 35 percent
Minor components: 10 percent

Description of the Mannington Soil

Typical profile
Surface layer:
Ag—0 to 14 inches; mucky silt loam

Substratum:
Cg—14 to 32 inches; silt loam
Oa—32 to 42 inches; muck
Oe—42 to 52 inches; mucky peat
C'g1—52 to 62 inches; mucky silt loam
C'g2—62 to 90 inches; silt loam

Properties and qualities
Drainage class: Very poorly drained
Parent material: Silty estuarine deposits over organic, herbaceous materials
Permeability: Moderately slow and moderate
Available water capacity: Very high
Reaction: Moderately acid to neutral
Ponding depth: 0 to 12 inches above the surface
Seasonal high water table: Within a depth of 6 inches
Flooding: Very frequent

Interpretive groups
Land capability classification (in nonirrigated areas): 8w
Hydrologic group: D

Description of the Nanticoke Soil

Typical profile
Surface layer:
Ag—0 to 5 inches; mucky silt loam

Substratum:
Cg1—5 to 50 inches; silt loam
Cg2—50 to 80 inches; silt loam

Properties and qualities
Drainage class: Very poorly drained
Parent material: Silty estuarine deposits
Permeability: Moderately slow
Available water capacity: High
Reaction: Moderately acid to neutral
Ponding depth: 0 to 12 inches above the surface
Seasonal high water table: Within a depth of 6 inches

Flooding: Very frequent

Interpretive groups
Land capability classification (in nonirrigated areas): 8w
Hydrologic group: D

Minor Components

- Udorthents; in areas disturbed by human activity

MasB—Marlton silt loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges

Composition

Marlton and similar soils: 90 percent
Minor components: 10 percent

Description of the Marlton Soil

Typical profile
Surface layer:
A—0 to 10 inches; silt loam

Subsoil:
Bt1—10 to 24 inches; clay
Bt2—24 to 30 inches; clay
Bt3—30 to 44 inches; clay

Substratum:
C—44 to 72 inches; stratified sandy loam to clay

Properties and qualities
Drainage class: Moderately well drained
Parent material: Glauconitic clayey marine deposits
Permeability: Slow to moderate
Available water capacity: Moderate
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: C

Minor Components

- Sharptown soils that have a seasonal high water table at a depth of 18 to 42 inches and have a fine-silty particle-size control section; on the slightly lower landforms
- The well drained Alloway soils that have a fine particle-size control section and do not contain glauconite; on similar landforms

MasC—Marlton silt loam, 5 to 10 percent slopes

Setting

Landscape: North Atlantic Coastal Plain

Landform: Ridges

Composition

Marlton and similar soils: 90 percent
Minor components: 10 percent

Description of the Marlton Soil

Typical profile
Surface layer:
Ap—0 to 7 inches; silt loam

Subsurface layer:
E—7 to 11 inches; silt loam

Subsoil:
BA—11 to 17 inches; silt loam
Bt—17 to 28 inches; sandy clay
BC—28 to 40 inches; sandy clay

Substratum:
C—40 to 72 inches; stratified sandy loam to clay

Properties and qualities
Drainage class: Moderately well drained
Parent material: Glauconitic clayey marine deposits
Permeability: Slow to moderate
Available water capacity: Moderate
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 3e
Hydrologic group: C

Minor Components

- Sharptown soils that have a seasonal high water table at a depth of 18 to 42 inches and have a fine-silty particle-size control section; on the slightly lower landforms
- The well drained Alloway soils that have a fine particle-size control section and do not contain glauconite; on similar landforms

MbrA—Matapeake silt loam, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flats, ridges, and terraces

Composition

Matapeake and similar soils: 90 percent
Minor components: 10 percent

Description of the Matapeake Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; silt loam

Subsoil:
Bt1—10 to 25 inches; silt loam
Bt2—25 to 33 inches; silt loam

Substratum:
2C1—33 to 50 inches; stratified sandy loam and loamy sand
2C2—50 to 72 inches; sand

Properties and qualities
Drainage class: Well drained
Parent material: Silty eolian deposits over marine deposits or silty eolian deposits over coarse fluviomarine deposits, or both
Permeability: Moderate and moderately rapid
Available water capacity: High
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 1
Hydrologic group: B

Minor Components

- Chillum soils having a dense compact 2C horizon that is firm or very firm; on similar landforms
- The moderately well drained Mattapex soils that have a seasonal high water table at a depth of 18 to 36 inches; on the slightly lower landforms

MbrB—Matapeake silt loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flats, ridges, and terraces

Composition

Matapeake and similar soils: 90 percent
Minor components: 10 percent

Description of the Matapeake Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; silt loam

Subsoil:
Bt1—10 to 25 inches; silt loam
Bt2—25 to 33 inches; silt loam

Substratum:
2C1—33 to 50 inches; stratified sandy loam and loamy sand
2C2—50 to 72 inches; sand

Properties and qualities
Drainage class: Well drained
Parent material: Silty eolian deposits over marine deposits or silty eolian deposits over coarse fluviomarine deposits, or both

Permeability: Moderate and moderately rapid
Available water capacity: High
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: B

Minor Components

- Chillum soils having a dense compact 2C horizon that is firm or very firm; on similar landforms
- Aura soils that have a fragipan and a fine-loamy particle-size control section; on similar landforms

MbrC—Matapeake silt loam, 5 to 10 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flats, ridges, and terraces

Composition

Matapeake and similar soils: 90 percent
Minor components: 10 percent

Description of the Matapeake Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; silt loam

Subsoil:
Bt1—10 to 25 inches; silt loam
Bt2—25 to 33 inches; silt loam

Substratum:
2C1—33 to 50 inches; stratified sandy loam and loamy sand
2C2—50 to 72 inches; sand

Properties and qualities
Drainage class: Well drained
Parent material: Silty eolian deposits over marine deposits or silty eolian deposits over coarse fluviomarine deposits, or both
Permeability: Moderate and moderately rapid
Available water capacity: High
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 3e
Hydrologic group: B

Minor Components

- Chillum soils having a dense compact 2C horizon that is firm or very firm; on similar landforms
- Aura soils that have a fragipan and a fine-loamy particle-size control section; on similar landforms

MbuA—Mattapex silt loam, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flats, ridges, and terraces

Composition

Mattapex and similar soils: 95 percent
Minor components: 5 percent

Description of the Mattapex Soil

Typical profile
Surface layer:
A—0 to 7 inches; silt loam

Subsoil:
Bt1—7 to 18 inches; silt loam
Bt2—18 to 33 inches; silty clay loam
Bt3—33 to 40 inches; silty clay loam

Substratum:
2C—40 to 72 inches; loamy sand

Properties and qualities
Drainage class: Moderately well drained
Parent material: Silty eolian deposits over coarser fluviomarine deposits
Permeability: Moderate to rapid
Available water capacity: High
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2w
Hydrologic group: C

Minor Components

- The poorly drained Othello soils that have a seasonal high water table within a depth of 12 inches; in the lower lying landscape positions

MbuB—Mattapex silt loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flats, ridges, and terraces

Composition

Mattapex and similar soils: 95 percent
Minor components: 5 percent

Description of the Mattapex Soil

Typical profile
Surface layer:
Ap—0 to 9 inches; silt loam

Subsoil:
BA—9 to 12 inches; silt loam

Bt—12 to 52 inches; silt loam

Substratum:
2C1—52 to 56 inches; stratified loamy sand and fine sandy loam
2C2—56 to 72 inches; stratified sand and loamy sand

Properties and qualities
Drainage class: Moderately well drained
Parent material: Silty eolian deposits over coarser fluviomarine deposits
Permeability: Moderate to rapid
Available water capacity: High
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: C

Minor Components

- The poorly drained Othello soils that have a seasonal high water table within a depth of 12 inches; in the lower lying landscape positions

MbxB—Mattapex-Urban land complex, 0 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flats, ridges, and terraces

Composition

Mattapex and similar soils: 60 percent
Urban land and similar components: 35 percent
Minor components: 5 percent

Description of the Mattapex Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; silt loam

Subsoil:
Bt—10 to 18 inches; silt loam

Substratum:
2C1—18 to 40 inches; fine sandy loam
2C2—40 to 72 inches; stratified sand to sandy loam

Properties and qualities
Drainage class: Moderately well drained
Parent material: Silty eolian deposits over coarser fluviomarine deposits
Permeability: Moderate to rapid
Available water capacity: Moderate
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2e

Hydrologic group: C

Description of Urban Land

Urban land consists of areas where much of the soil surface is covered with asphalt, concrete, buildings, or other impervious cover. A description of the typical sequence, depth, and composition of the soil material is not provided because the soil material varies greatly from place to place.

Interpretive groups
Land capability classification (in nonirrigated areas): 8s
Hydrologic group: Not specified

Minor Components

- The poorly drained Othello soils that have a seasonal high water table within a depth of 12 inches; in the lower lying landscape positions

MutA—Muttontown sandy loam, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Depressions, flats, and terraces

Composition

Muttontown and similar soils: 95 percent
Minor components: 5 percent

Description of the Muttontown Soil

Typical profile
Surface layer:
Oe—0 to 2 inches; moderately decomposed plant material
A1—2 to 3 inches; sandy loam
A2—3 to 7 inches; sandy loam

Subsoil:
Bt1—7 to 20 inches; sandy loam
Bt2—20 to 38 inches; sandy clay loam
BCg—38 to 57 inches; stratified sandy loam and sandy clay loam

Substratum:
Cg—57 to 72 inches; sandy clay

Properties and qualities
Drainage class: Moderately well drained
Parent material: Sandy or loamy fluviomarine deposits, or both
Permeability: Moderately rapid and rapid
Available water capacity: High
Reaction: Extremely acid to slightly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2w
Hydrologic group: B

Minor Components

- The poorly drained Fallsington soils that have a fine-loamy particle-size control section; in the lower lying landscape positions

OTKA—Othello and Fallsington soils, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Depressions and flats

Composition

Othello and similar soils: 55 percent
Fallsington and similar soils: 45 percent

Description of the Othello Soil

Typical profile
Surface layer:
Oe—0 to 1 inch; mucky peat
A—1 to 13 inches; silt loam

Subsoil:
Btg1—13 to 32 inches; silt loam
Btg2—32 to 40 inches; silty clay loam

Substratum:
2C1—40 to 60 inches; loamy sand
2C2—60 to 80 inches; sand

Properties and qualities
Drainage class: Poorly drained
Parent material: Silty eolian deposits over fluviomarine deposits
Permeability: Moderate to rapid
Available water capacity: High
Reaction: Extremely acid to strongly acid
Seasonal high water table: Within a depth of 12 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 3w
Hydrologic group: C/D

Description of the Fallsington Soil

Typical profile
Surface layer:
Oe—0 to 2 inches; mucky peat
A—2 to 5 inches; loam

Subsurface layer:
E—5 to 8 inches; sandy loam

Subsoil:
Btg1—8 to 14 inches; sandy loam
Btg2—14 to 31 inches; sandy clay loam

Substratum:
Cg1—31 to 62 inches; sand
Cg2—62 to 80 inches; gravelly sand

Properties and qualities
Drainage class: Poorly drained
Parent material: Loamy fluviomarine deposits
Permeability: Moderate to rapid

Available water capacity: Moderate
Reaction: Extremely acid to strongly acid
Seasonal high water table: Within a depth of 12 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 3w
Hydrologic group: B/D

Minor Components

- There are no minor components that have significant differences from the major components in this map unit.

OTMA—Othello, Fallsington, and Trussum soils, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Depressions

Composition

Othello and similar soils: 45 percent
Fallsington and similar soils: 35 percent
Trussum and similar soils: 20 percent

Description of the Othello Soil

Typical profile
Surface layer:
Oe—0 to 1 inch; mucky peat
A—1 to 13 inches; silt loam

Subsoil:
Btg1—13 to 32 inches; silt loam
Btg2—32 to 40 inches; silty clay loam

Substratum:
2C1—40 to 60 inches; loamy sand
2C2—60 to 80 inches; sand

Properties and qualities
Drainage class: Poorly drained
Parent material: Silty eolian deposits over fluviomarine deposits
Permeability: Moderate to rapid
Available water capacity: High
Reaction: Extremely acid to strongly acid
Seasonal high water table: Within a depth of 12 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 3w
Hydrologic group: C/D

Description of the Fallsington Soil

Typical profile
Surface layer:
Oe—0 to 2 inches; mucky peat
A—2 to 5 inches; loam

Subsurface layer:
E—5 to 8 inches; sandy loam

Subsoil:
Btg1—8 to 14 inches; sandy loam
Btg2—14 to 31 inches; sandy clay loam

Substratum:
Cg1—31 to 62 inches; sand
Cg2—62 to 80 inches; gravelly sand

Properties and qualities
Drainage class: Poorly drained
Parent material: Loamy fluviomarine deposits
Permeability: Moderate to rapid
Available water capacity: Moderate
Reaction: Extremely acid to strongly acid
Seasonal high water table: Within a depth of 12 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 3w
Hydrologic group: B/D

Description of the Trussum Soil

Typical profile
Surface layer:
Ap—0 to 12 inches; loam

Subsoil:
Bt1—12 to 25 inches; loam
Bt2—25 to 35 inches; clay
Bt3—35 to 60 inches; clay
Bt4—60 to 66 inches; sandy clay loam
Bt5—66 to 72 inches; sandy clay loam

Properties and qualities
Drainage class: Poorly drained
Parent material: Clayey marine deposits
Permeability: Slow to moderate
Available water capacity: High
Reaction: Extremely acid to strongly acid
Seasonal high water table: Within a depth of 12 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 4w
Hydrologic group: C/D

Minor Components

- There are no minor components that have significant differences from the major components in this map unit.

PEEAR—Pedricktown, Askecksy, and Mullica soils, 0 to 2 percent slopes, rarely flooded

Setting

Landscape: North Atlantic Coastal Plain
Landform: Depressions, flats, and flood plains

Composition

Pedricktown and similar soils: 45 percent
Askecksy and similar soils: 35 percent
Mullica and similar soils: 20 percent

Description of the Pedricktown Soil

Typical profile
Surface layer:
Oe—0 to 2 inches; mucky peat
Ag—2 to 9 inches; silt loam

Substratum:
Cg1—9 to 22 inches; sandy loam
Cg2—22 to 36 inches; loamy sand
Cg3—36 to 40 inches; sandy clay loam
Cg4—40 to 49 inches; sandy loam
Cg5—49 to 56 inches; loamy sand
Cg6—56 to 72 inches; sand

Properties and qualities
Drainage class: Very poorly drained
Parent material: Loamy and sandy fluviomarine deposits
Permeability: Moderate to rapid
Available water capacity: Moderate
Reaction: Extremely acid to slightly acid
Ponding depth: 0 to 6 inches above the surface
Seasonal high water table: Within a depth of 6 inches
Flooding: Rare

Interpretive groups
Land capability classification (in nonirrigated areas): 4w
Hydrologic group: D

Description of the Askecksy Soil

Typical profile
Surface layer:
Ag—0 to 9 inches; loamy sand

Substratum:
Cg1—9 to 11 inches; sand
Cg2—11 to 28 inches; sand
Cg3—28 to 31 inches; sand
Cg4—31 to 80 inches; sand

Properties and qualities
Drainage class: Poorly drained
Parent material: Sandy fluviomarine deposits
Permeability: Rapid
Available water capacity: Low
Reaction: Extremely acid to strongly acid
Ponding depth: 0 to 6 inches above the surface
Seasonal high water table: Within a depth of 12 inches
Flooding: Rare

Interpretive groups
Land capability classification (in nonirrigated areas): 4w

Hydrologic group: A/D

Description of the Mullica Soil

Typical profile
Surface layer:
Oe—0 to 2 inches; mucky peat
Ag—2 to 9 inches; sandy loam

Subsoil:
Bg1—9 to 14 inches; sandy loam
Bg2—14 to 28 inches; sandy loam

Substratum:
Cg1—28 to 31 inches; loamy sand
Cg2—31 to 40 inches; sand
Cg3—40 to 80 inches; gravelly loamy sand

Properties and qualities
Drainage class: Very poorly drained
Parent material: Sandy or loamy fluviomarine deposits, or both
Permeability: Moderately rapid and rapid
Available water capacity: Moderate
Reaction: Extremely acid and very strongly acid
Ponding depth: 0 to 6 inches above the surface
Seasonal high water table: Within a depth of 6 inches
Flooding: Rare

Interpretive groups
Land capability classification (in nonirrigated areas): 4w
Hydrologic group: D

Minor Components

- There are no minor components that have significant differences from the major components in this map unit.

PHG—Pits, sand and gravel

Setting

Slope: Nearly level
Landscape: North Atlantic Coastal Plain
Anthropogenic feature: Gravel pit

Composition

Pits, sand and gravel, and similar components: 100 percent

Description of Pits

This map unit consists of open excavations, or pits, from which soil material has been removed for use as construction material or road aggregate. The pits commonly have steep, unstable slope faces. Some are filled with water. Most are mined for sand or gravel, or both. A few have been mined for materials high in glauconite. A description of the typical sequence, depth, and composition of the soil material is not provided because the material varies greatly from place to place, and the major properties and qualities are not given because the soil properties vary too much.

Interpretive groups
Land capability classification (in nonirrigated areas): 8s
Hydrologic group: Not specified

PHM—Pits, clay

Setting

Slope: Nearly level
Landscape: North Atlantic Coastal Plain
Anthropogenic feature: Clay pit

Composition

Pits, clay, and similar components: 100 percent

Description of Pits

This map unit consists of open excavations, or pits, from which soil material has been removed for use as construction material or for other uses. The pits commonly have steep, unstable slope faces. Some are filled with water. Most are mined for clay. A few have been mined for materials high in glauconite. A description of the typical sequence, depth, and composition of the soil material is not provided because the material varies greatly from place to place, and the major properties and qualities are not given because the soil properties vary too much.

Interpretive groups
Land capability classification (in nonirrigated areas): 3w
Hydrologic group: C

SacA—Sassafras sandy loam, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Sassafras and similar soils: 80 percent
Minor components: 20 percent

Description of the Sassafras Soil

Typical profile
Surface layer:
Ap—0 to 12 inches; sandy loam

Subsoil:
Bt1—12 to 18 inches; sandy loam
Bt2—18 to 28 inches; sandy clay loam
BC—28 to 40 inches; loamy sand

Substratum:
C1—40 to 58 inches; sand
C2—58 to 80 inches; sand

Properties and qualities
Drainage class: Well drained (fig. 4)
Parent material: Loamy or gravelly fluviomarine deposits, or both
Permeability: Moderate to rapid
Available water capacity: Moderate
Reaction: Extremely acid to neutral
Depth to the seasonal high water table: More than 6 feet

Figure 4.—High-quality truck crops and row crops can be produced in areas of Sassafras sandy loam, 0 to 2 percent slopes. Potatoes are being grown in this field.

Interpretive groups
Land capability classification (in nonirrigated areas): 1
Hydrologic group: B

Minor Components

- Downer soils that have a coarse-loamy particle-size control section; on similar landforms
- The moderately well drained Woodstown soils; on the slightly lower landforms
- Aura soils that have a fragipan and a fine-loamy particle-size control section; on similar landforms

SacB—Sassafras sandy loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Sassafras and similar soils: 80 percent
Minor components: 20 percent

Description of the Sassafras Soil

Typical profile
Surface layer:
Ap—0 to 12 inches; sandy loam

Subsoil:
Bt1—12 to 18 inches; sandy loam
Bt2—18 to 28 inches; sandy clay loam
BC—28 to 40 inches; loamy sand

Substratum:
C1—40 to 58 inches; sand
C2—58 to 80 inches; sand

Properties and qualities
Drainage class: Well drained
Parent material: Loamy or gravelly fluviomarine deposits, or both
Permeability: Moderate to rapid
Available water capacity: Moderate
Reaction: Extremely acid to neutral
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: B

Minor Components

- Downer soils that have a coarse-loamy particle-size control section; on similar landforms
- The moderately well drained Woodstown soils; on the slightly lower landforms
- Aura soils that have a fragipan and a fine-loamy particle-size control section; on similar landforms

SacC—Sassafras sandy loam, 5 to 10 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills

Composition

Sassafras and similar soils: 90 percent
Minor components: 10 percent

Description of the Sassafras Soil

Typical profile
Surface layer:
Ap—0 to 12 inches; sandy loam

Subsoil:
Bt1—12 to 18 inches; sandy loam
Bt2—18 to 28 inches; sandy clay loam
BC—28 to 40 inches; loamy sand

Substratum:
C1—40 to 58 inches; sand
C2—58 to 80 inches; sand

Properties and qualities
Drainage class: Well drained
Parent material: Loamy or gravelly fluviomarine deposits, or both
Permeability: Moderate to rapid
Available water capacity: Moderate
Reaction: Extremely acid to neutral
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 3e

Hydrologic group: B

Minor Components

- Downer soils that have a coarse-loamy particle-size control section; on similar landforms
- Aura soils that have a fragipan and a fine-loamy particle-size control section; on similar landforms

SafA—Sassafras loam, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flats, knolls, and low hills

Composition

Sassafras and similar soils: 90 percent
Minor components: 10 percent

Description of the Sassafras Soil

Typical profile
Surface layer:
Ap—0 to 8 inches; loam

Subsurface layer:
AB—8 to 12 inches; loam

Subsoil:
Bt1—12 to 25 inches; sandy clay loam
Bt2—25 to 31 inches; sandy clay loam
BC—31 to 42 inches; gravelly sandy loam

Substratum:
C—42 to 60 inches; gravelly loamy sand

Properties and qualities
Drainage class: Well drained
Parent material: Loamy or gravelly fluviomarine deposits, or both
Permeability: Moderate to rapid
Available water capacity: Moderate
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 1
Hydrologic group: B

Minor Components

- The moderately well drained Woodstown soils; on the slightly lower landforms
- The poorly drained Fallsington soils; on the lower landforms

SanA—Sassafras-Woodstown complex, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Flats, knolls, and low hills

Composition

Sassafras and similar soils: 60 percent
Woodstown and similar soils: 40 percent

Description of the Sassafras Soil

Typical profile
Surface layer:
Ap—0 to 12 inches; sandy loam

Subsoil:
Bt1—12 to 18 inches; sandy loam
Bt2—18 to 28 inches; sandy clay loam
BC—28 to 40 inches; loamy sand

Substratum:
C1—40 to 58 inches; sand
C2—58 to 80 inches; sand

Properties and qualities
Drainage class: Well drained
Parent material: Loamy or gravelly fluviomarine deposits, or both
Permeability: Moderate to rapid
Available water capacity: Moderate
Reaction: Extremely acid to neutral
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: B

Description of the Woodstown Soil

Typical profile
Surface layer:
Ap—0 to 11 inches; sandy loam

Subsoil:
BA—11 to 17 inches; sandy loam
Bt—17 to 23 inches; sandy loam
BC—23 to 30 inches; sandy loam

Substratum:
C—30 to 48 inches; sandy loam
2C—48 to 60 inches; stratified loamy sand and sandy loam

Properties and qualities
Drainage class: Moderately well drained
Parent material: Old alluvium or sandy marine deposits, or both
Permeability: Moderately rapid
Available water capacity: Moderate
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2w
Hydrologic group: C

Minor Components

- There are no minor components that have significant differences from the major components in this map unit.

ShnA—Sharptown silt loam, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges and terraces

Composition

Sharptown and similar soils: 95 percent
Minor components: 5 percent

Description of the Sharptown Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; silt loam

Subsoil:
Bt1—10 to 20 inches; silt loam
Bt2—20 to 23 inches; silt loam
Bt3—23 to 38 inches; silt loam
BC—38 to 44 inches; loam

Substratum:
2C1—44 to 46 inches; sandy loam
2C2—46 to 50 inches; silt loam
2C3—50 to 58 inches; loam
2C4—58 to 72 inches; silt loam

Properties and qualities
Drainage class: Moderately well drained
Parent material: Silty eolian deposits over glauconitic loamy marine deposits
Permeability: Moderately slow and moderate
Available water capacity: High
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2w
Hydrologic group: C

Minor Components

- The poorly drained Othello soils; on the lower landforms

ShnB—Sharptown silt loam, 2 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges and terraces

Composition

Sharptown and similar soils: 95 percent
Minor components: 5 percent

Description of the Sharptown Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; silt loam

Subsoil:
Bt1—10 to 20 inches; silt loam
Bt2—20 to 23 inches; silt loam
Bt3—23 to 38 inches; silt loam
BC—38 to 44 inches; loam

Substratum:
2C1—44 to 46 inches; sandy loam
2C2—46 to 50 inches; silt loam
2C3—50 to 58 inches; loam
2C4—58 to 72 inches; silt loam

Properties and qualities
Drainage class: Moderately well drained
Parent material: Silty eolian deposits over glauconitic loamy marine deposits
Permeability: Moderately slow and moderate
Available water capacity: High
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2e
Hydrologic group: C

Minor Components

- The poorly drained Othello soils; on the lower landforms

SwtB—Swedesboro loamy sand, 0 to 5 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges and terraces

Composition

Swedesboro and similar soils: 90 percent
Minor components: 10 percent

Description of the Swedesboro Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; loamy sand

Subsoil:
BA—10 to 14 inches; loamy sand
Bt1—14 to 26 inches; sandy loam
Bt2—26 to 30 inches; sandy clay loam
Bt3—30 to 40 inches; fine sandy loam
BC—40 to 46 inches; loamy fine sand

Substratum:
2C1—46 to 54 inches; sand
2C2—54 to 72 inches; sand

Properties and qualities
Drainage class: Well drained
Parent material: Glauconitic sandy marine deposits or glauconitic loamy marine deposits, or both

Permeability: Moderately rapid and rapid
Available water capacity: Low
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 2s
Hydrologic group: B

Minor Components

- The moderately well drained Sharptown soils that have a fine-silty particle-size control section; on similar landforms
- Woodstown soils that have a seasonal high water table at a depth of 18 to 42 inches and a fine-loamy particle-size control section that does not contain glauconite; on the slightly lower landforms

SwtC—Swedesboro loamy sand, 5 to 10 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Ridges and terraces

Composition

Swedesboro and similar soils: 90 percent
Minor components: 10 percent

Description of the Swedesboro Soil

Typical profile
Surface layer:
Ap—0 to 10 inches; loamy sand

Subsoil:
BA—10 to 14 inches; loamy sand
Bt1—14 to 26 inches; sandy loam
Bt2—26 to 30 inches; sandy clay loam
Bt3—30 to 40 inches; fine sandy loam
BC—40 to 46 inches; loamy fine sand

Substratum:
2C1—46 to 54 inches; sand
2C2—54 to 72 inches; sand

Properties and qualities
Drainage class: Well drained
Parent material: Glauconitic sandy marine deposits or glauconitic loamy marine deposits, or both
Permeability: Moderately rapid and rapid
Available water capacity: Low
Reaction: Extremely acid to strongly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 3e
Hydrologic group: B

Minor Components

- The moderately well drained Sharptown soils that have a fine-silty particle-size control section; on similar landforms
- Woodstown soils that have a seasonal high water table at a depth of 18 to 42 inches and a fine-loamy particle-size control section that does not contain glauconite; on the slightly lower landforms

TrkAv—Transquaking mucky peat, 0 to 1 percent slopes, very frequently flooded

Setting

Landscape: North Atlantic Coastal Plain
Landform: Tidal flats

Composition

Transquaking and similar soils: 90 percent
Minor components: 10 percent

Description of the Transquaking Soil

Typical profile
Oe1—0 to 14 inches; mucky peat
Oe2—14 to 30 inches; mucky peat
Oe3—30 to 45 inches; mucky peat
Oe4—45 to 70 inches; mucky peat
Oa—70 to 90 inches; muck

Properties and qualities
Drainage class: Very poorly drained
Parent material: Herbaceous organic material over loamy sediments
Permeability: Slow
Available water capacity: Very high
Reaction: Slightly acid to neutral (unincubated)
Ponding depth: 0 to 12 inches above the surface
Seasonal high water table: At the surface
Flooding: Very frequent

Interpretive groups
Land capability classification (in nonirrigated areas): 8w
Hydrologic group: D

Minor Components

- Broadkill soils that do not have organic layers more than 8 inches thick in the upper 72 inches; on similar landforms
- Appoquinimink soils that formed in loamy fluvial sediments, high in silt, overlying dominantly herbaceous organic material

UddfB—Udorthents, dredged fine material, 0 to 8 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Anthropogenic feature: Hydraulic fills and constructed levees
Landform: Depressions

Composition

Udorthents and similar soils: 90 percent
Minor components: 10 percent

Description of the Udorthents

Typical profile
Surface layer:
A—0 to 12 inches; loam

Substratum:
C—12 to 72 inches; clay

Properties and qualities
Drainage class: Well drained
Parent material: Dredged fill or excavated borrow materials derived from river channels, pits, or previously unaltered soils
Permeability: Slow to moderate
Available water capacity: High
Reaction: Very strongly acid to slightly acid
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 7s
Hydrologic group: D

Minor Components

- Urban land
- Water

UdrB—Udorthents, refuse substratum, 0 to 8 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Anthropogenic feature: Fill
Landform: Low hills

Composition

Udorthents and similar soils: 100 percent

Description of the Udorthents

Typical profile
C—0 to 60 inches; silt loam

Properties and qualities
Drainage class: Well drained
Parent material: Silty material overlying refuse material transported by human activity
Permeability: High
Available water capacity: High
Reaction: Moderately acid to neutral

Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 7s
Hydrologic group: D

Minor Components

- There are no minor components that have significant differences from the major component in this map unit.

UdsB—Udorthents, sandy substratum, 0 to 8 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Anthropogenic feature: Borrow area; upper layers of natural soil have been removed for other purposes (roads, railroads, etc.)
Landform: Depression

Composition

Udorthents and similar soils: 100 percent

Description of the Udorthents

Typical profile
Surface layer:
A—0 to 12 inches; loam

Substratum:
C—12 to 72 inches; very gravelly sand

Properties and qualities
Drainage class: Well drained
Parent material: Sandy and gravelly material from the substratum of natural soils
Permeability: Moderate to rapid
Available water capacity: Low
Reaction: Very strongly acid to slightly alkaline
Depth to the seasonal high water table: More than 6 feet

Interpretive groups
Land capability classification (in nonirrigated areas): 7s
Hydrologic group: B

Minor Components

- There are no minor components that have significant differences from the major component in this map unit.

UR—Urban land

Setting

Slope: Nearly level
Landscape: North Atlantic Coastal Plain
Anthropogenic feature: Urban land

Composition

Urban land and similar components: 95 percent
Minor components: 5 percent

Description of Urban Land

Urban land consists of areas where much of the soil surface is covered with asphalt, concrete, buildings, or other impervious cover. A description of the typical sequence, depth, and composition of the soil material is not provided because the soil material varies greatly from place to place.

Interpretive groups
Land capability classification (in nonirrigated areas): 8s
Hydrologic group: Not specified

Minor Components

- Udorthents that generally consist of loamy material in the upper part of the profile and sandy to loamy material mixed with household and industrial refuse in the lower part

WATER—Water

This map unit consists of areas inundated with water for most of the year. It generally includes rivers, ponds, or lakes.

WoeA—Woodstown sandy loam, 0 to 2 percent slopes

Setting

Landscape: North Atlantic Coastal Plain
Landform: Depressions, flats, ridges, and terraces

Composition

Woodstown and similar soils: 80 percent
Minor components: 20 percent

Description of the Woodstown Soil

Typical profile
Surface layer:
Ap—0 to 8 inches; sandy loam

Subsoil:
Bt1—8 to 26 inches; sandy loam
Bt2—26 to 30 inches; sandy clay loam
Bt3—30 to 36 inches; sandy loam

Substratum:
C—36 to 80 inches; loamy sand

Properties and qualities
Drainage class: Moderately well drained
Parent material: Old alluvium or sandy marine deposits, or both
Permeability: Moderate to rapid
Available water capacity: Moderate
Reaction: Extremely acid to neutral
Depth to the seasonal high water table: 18 to 42 inches

Interpretive groups
Land capability classification (in nonirrigated areas): 2w
Hydrologic group: C

Minor Components

- The well drained Downer soils that have a coarse-loamy particle-size control section; on the slightly higher landforms
- The poorly drained Fallsington soils; on the lower landforms
- The well drained Sassafras soils that have a fine-loamy particle-size control section; on the slightly higher landforms

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited, somewhat limited,* and *very limited*. The suitability ratings are expressed as *well suited, moderately suited, poorly suited,* and *unsuited* or as *good, fair,* and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact

on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

Mona Peterson, district conservationist, Natural Resources Conservation Service, helped to prepare this section.

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops are listed, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland and other important farmland are described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Federal and state regulations stipulate that any area designated as a wetland cannot be altered without prior approval. Contact the local office of the Natural Resources Conservation Service for identification of hydric soils and potential wetlands.

Conditions are favorable for crops and pasture in Salem County. Soil suitability and a favorable climate increase the potential for the production of many field crops that are not commonly grown in the county.

Corn and soybeans are the row crops dominantly grown in the county. Grain sorghum and similar crops can also be grown profitably if economic conditions are favorable. Wheat is the most commonly grown close-growing crop, and barley and oats are also suitable for planting. Specialty crops include vegetables, small fruits, tree fruits, and many nursery plants (fig. 5). Some areas are used for melons, strawberries, sweet corn, tomatoes, peppers, or other vegetables or small fruits. Apples and peaches are the most common tree fruits.

Soils that have good natural drainage and warm up early in spring are especially well suited to many vegetables and small fruits. They include the Downer and Sassafras soils in areas that have slopes of less than 5 percent. Most of the well drained soils in the survey area are suited to orchard crops and nursery plants. Soils in low areas, such as depressions, lower flats, and drainageways where frost is frequent and air drainage is poor, generally are poorly suited to early vegetables, small fruits, and orchard crops.

The latest information about specialty crops can be obtained at the local office of the Cooperative Extension Service or the Natural Resources Conservation Service.

The nearly level and gently sloping soils in Salem County generally are well suited to row crops and vegetables. Most of the row crops and vegetables are grown in areas of soils in the higher landscape positions because wetness typically is a limitation of the soils in the lower landscape positions.

Some areas that are idle, wooded, or pastured have good potential for use as cropland. Crop production could be increased considerably by applying the latest technology and management practices to all of the cropland in the survey area. The information in this soil survey can facilitate the application of such technology and management practices.

Cropland

The management considerations in areas of cropland in Salem County include controlling erosion, installing drainage systems, improving soil fertility, applying a system of weed control, and improving tilth.

Figure 5.—Ornamental trees in an area of Chillum silt loam, 0 to 2 percent slopes. This soil is considered prime farmland in Salem County and is well suited to high-value ornamental plants.

Erosion control.—Water erosion is a major concern in areas of most of the soils used for cropland in Salem County. It is a hazard on soils that have a slope of more than 2 percent. If erosion-reducing management practices are not applied, significant loss of the surface layer may occur over time. As the slope increases, the hazard of erosion and the difficulty in controlling erosion also increase.

Loss of the surface layer through erosion is damaging for two reasons. First, soil productivity is reduced as the surface layer is lost and part of the subsoil is incorporated into the plow layer. Loss of the surface layer is especially damaging on soils that have a clayey subsoil, such as those in the Alloway and Keyport series; on soils that have a gravelly subsoil, such as those in the Galloway series; and on soils having a layer in or below the subsoil that limits the depth of the root zone, such as that in the Aura series. In many sloping areas of clayey soils, preparing a good seedbed is difficult because much of the original friable surface layer has been lost through erosion. Secondly, erosion on farmland results in the sedimentation of streams. Controlling erosion minimizes the pollution of water by runoff carrying plant nutrients, soil particles, and plant residue. It also helps to maintain or improve the quality of water for municipal use, recreational activities, and fish and wildlife.

Erosion-control practices help to provide a protective surface cover, reduce the rate of runoff, and increase the rate of water infiltration. A cropping system that keeps a vegetative cover on the soil for extended periods helps to minimize soil loss and maintain the productive capacity of the soil. Including forage crops of grasses and legumes in the cropping system helps to control erosion in sloping areas. The legumes also add nitrogen to the soil and improve tilth.

Minimizing tillage and leaving crop residue on the surface help to increase the rate of water infiltration, reduce the runoff rate, and control erosion. These practices can be effective on most of the soils in the survey area. In the more sloping areas that are

used for corn or are double cropped with soybeans, no-till farming helps to control erosion.

Terraces and diversions shorten the length of slopes and thus minimize erosion caused by runoff. They are most effective on well drained soils and less effective on wetter soils that may become excessively wet in terrace channels.

Information about erosion-control measures for each kind of soil is available at the local office of the Natural Resources Conservation Service.

Water management.—Water management involves improving soil drainage and retaining soil moisture.

Excessive wetness is a management concern on cropland in Salem County. Wet soils limit equipment use and crop selection. They are poorly aerated and are slower to warm in the spring than better drained soils, and the crops grown on these soils are often susceptible to disease and pest management problems. Somewhat poorly drained and poorly drained soils are so wet that many crops are damaged during most years unless a drainage system is installed.

The design of both surface and subsurface drainage systems varies according to the kind of soil. A combination of surface drains and tile drains is generally needed in more intensively row cropped areas of the somewhat poorly drained soils. Drains should be installed at closer intervals in the more slowly permeable soils than in the more rapidly permeable soils.

Managing drainage in conformance with regulations concerning wetlands may require special permits and extra planning. The local office of the Natural Resources Conservation Service should be contacted for identification of hydric soils and potential wetlands.

Tidal areas are subject to daily tidal flooding. Flash flooding as a result of intensive rainfall can occur on flood plains at any time of the year.

Soil fertility.—The soils in Salem County generally are low in natural fertility and are naturally acid. Additions of lime and fertilizer are needed for the production of most kinds of crops.

The liming requirement is a major management concern in areas of cropland. The acidity level in a soil affects the availability of many nutrients to plants and the activity of beneficial bacteria. Lime neutralizes exchangeable aluminum in the soil and thus counteracts the adverse effects of high levels of aluminum on many crops. Liming adds calcium (from calcitic lime) or calcium and magnesium (from dolomitic lime) to the soil. A soil test is a guide to what amount and kind of lime should be used. The desired pH levels may differ, depending on the soil properties and the crop to be grown.

Nitrogen fertilizer is required for most crops. It generally is not required, however, for clover, in some rotations of soybeans, and for alfalfa that is established. Soil tests can also indicate the need for phosphorus and potassium fertilizer. Phosphorus and potassium levels can build up in the soil if applications of these nutrients exceed crop demands.

Weed control.—Applying herbicides for weed control is a common practice on cropland in the county. It decreases the need for tillage and is an integral part of modern farming. Selected soil properties, such as organic matter content and texture of the surface layer, affect the rate of herbicide application. Estimates of both of these properties were determined for the soils in this county and are provided in table 18, “Engineering Index Properties,” and table 19, “Physical Properties of the Soils.”

In some areas the organic matter content projected for a soil is outside the range shown in the table. It can be higher in soils that have received large amounts of animal or human waste. Soils that have recently been brought into cultivation may have a higher content of organic matter in the surface layer than similar soils that have been cultivated for a long time. A lower content of organic matter is common where the surface layer has been partly or completely removed by erosion or if the

soil has been subjected to land smoothing. Conservation tillage can increase the content of organic matter in the surface layer. Current soil tests should be used to determine the organic matter content in a specific area.

Tilth.—Tilth is an important factor in the germination of seeds and the infiltration of water into the soil. Soils that have good tilth are granular and porous. Some of the soils in the survey area that are used for crops have a light colored surface layer of sandy loam and a low content of organic matter. Generally, the structure of these soils is weak. Regular additions of crop residue, manure, and other organic material can improve soil structure.

Severely eroded, clayey soils become cloddy if they are plowed when the moisture content is outside a narrow range. Fall plowing of these soils generally results in better tilth in spring. Other soils in the survey area have poor tilth because of the gravel in the surface layer. The content and size of the pebbles affect the use of tillage implements.

Pasture and Hayland

In 2002, there were about 4,119 beef and dairy cattle in Salem County (USDA NASS 2004). Most of the pasture and hayland in the county supports a mixture of grasses and legumes. Most of the hay is grown in rotation with pasture. The harvested hay commonly is rolled into large, round bales or is used as grass silage (fig. 6).

The soils in the survey area vary widely in their ability to produce grasses and legumes because of differences in such properties as depth to a limiting layer, drainage, and available water capacity. The forage species selected for planting should be appropriate for the soil.

Figure 6.—Harvested hay in an area of Woodstown sandy loam, 0 to 2 percent slopes. Large, round bales are often preferred to smaller, "square" bales since round bales are generally less labor intensive to produce and are better adapted to mechanized feeding systems. A successful livestock enterprise depends on a forage program that provides large quantities of good-quality feed. In most areas of hayland and pasture in Salem County, renovation, brush control, and measures that help to prevent overgrazing are needed.

The nearly level and gently sloping, well drained soils are well suited to the highest producing crops, such as corn for grain and silage, alfalfa, or a mixture of alfalfa and orchardgrass or orchardgrass and timothy. Sod-farming grasses, such as tall fescue and orchardgrass, help to minimize erosion in the steeper areas. Alfalfa should be seeded with cool-season grasses in areas where a root-limiting layer is at a depth of at least 2 feet and the soil is well drained. The wetter soils are better suited to clover-grass mixtures or to pure stands of clover or grasses. Legumes can be established through renovation in areas that support sod-forming grasses.

The intended use should be considered when forage species are selected. Selected species should provide maximum quality and versatility in the forage program. Legumes generally produce higher quality feed than grasses. They should be grown to the maximum extent possible. The taller legumes, such as alfalfa and red clover, are more versatile than legumes that are used primarily for grazing, such as white clover. Orchardgrass, timothy, and tall fescue are best suited to use as hay and silage.

Tall fescue is an important cool-season grass. It is suited to a wide range of soil conditions and is grown for both pasture and hay. The growth that occurs from August through November commonly accumulates in the field and is used for grazing in late fall and in winter. For maximum production, nitrogen fertilizer should be applied during the period when the grass is accumulating. The rate of application should be based on the desired level of production.

Warm-season grasses that are planted from early April through late May help to supplement cool-season grasses. They grow well during warm periods, especially from mid-June through September, when the growth of cool-season grasses is low. Examples of warm-season grasses are switchgrass, big bluestem, indiangrass, and Caucasian bluestem.

Renovation can increase forage yields in areas that have a good stand of grass. This process involves partially destroying the sod, usually by application of herbicides, and then applying lime and fertilizer and seeding desirable forage species. Adding legumes to the stand of grass provides high-quality feed. Legumes increase summer production and transfer, or “fix,” nitrogen from the air into the soil. Under growing conditions, alfalfa can fix 200 to 300 pounds of nitrogen per acre per year; red clover, 100 to 200 pounds; and ladino clover, 100 to 150 pounds. An acre of annual forage legumes, such as vetch, can fix 75 to 100 pounds of nitrogen per year.

Additional information about managing pasture and hayland can be obtained at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Ornamental Crops

The ornamental crops grown in Salem County include Christmas trees and many species of native trees, shrubs, and herbaceous plants used in landscaping, such as mountain laurel, rhododendron, hemlock, and boxwood. Important Christmas tree species are Scotch pine, white spruce, blue spruce, and Norway spruce. Also grown are hybrid trees and shrubs, including holly, juniper, and yew.

Ornamental crops grow well on the well drained, loamy soils in the county. They should be protected from northwestern winds in winter, especially when the crops are on the higher landforms. The content of clay in the soil should be 15 to 30 percent for optimum ball and burlap harvesting.

Sandy soils that have a clay content of less than 15 percent are more difficult to use for ornamental species that are ball and burlap harvested. These soils do not cling together and thus ball poorly. Soils that have a clay content of more than 30 percent can only be dug when their water content is within a narrow range. Soils that are wet, are in natural drainageways, or have a clay content of more than 30 percent also are difficult to use for ornamental species. They hold excess moisture

around roots which results in poor growth and encourages phytophthora root disease. Sites should be selected in areas having an adequate supply of water that can be used to spray or irrigate the plants. Disturbing as little of the planting area as possible helps to prevent excessive erosion. Leaving areas between plants and between rows in permanent sod helps to control erosion and to provide a path for equipment. Planting in a grid arrangement allows easy access by equipment used for mowing and spraying.

Access roads should be carefully planned and constructed. If possible, they should not be constructed in natural drainageways, in wet areas, or where, because of the slope, the roadbed grade would be more than 10 percent. They should be surfaced or seeded with perennial vegetation as soon as possible after construction. Lime and fertilizer should be applied regularly to maintain the sod. Cut and fill slopes should be stabilized with vegetation as soon as possible.

Because of insufficient natural fertility, the soils in Salem County cannot quickly produce ornamentals. They are typically low in nitrogen and phosphorus and, where fertilizers have been previously applied, often high in potassium. Some soils are too acid for ornamental crops, especially for hybrid ornamentals and some tree species. Application rates for lime and fertilizer should be determined by soil tests and by tissue analysis of the crop.

Herbicides should only be applied by banding or spot treatment. The content of organic matter, the texture of the surface layer, and the depth to a seasonal high water table affect the amount of herbicide used and the frequency of application. The effectiveness of herbicides is reduced in eroded soils that have a higher content of clay in the surface layer. Soil wetness associated with seeps and springs can also reduce the effectiveness of herbicides. These soil limitations are described under the heading “Detailed Soil Map Units.”

Orchards

Orchards in Salem County produce several varieties of apples and peaches. The fruit is grown primarily for the fresh market and the juice market. All varieties require intensive management and high maintenance.

A uniform, sloping topography allows for good drainage. Sites that are gullied or have ravines or abrupt changes in slope should not be selected. Trees planted in areas of soils that are wet, subject to flooding, affected by seeps, or in natural drainageways produce low yields and are more susceptible to disease. Orchards should be established near an adequate supply of water that can be used to spray or irrigate the crops. The best sites are in areas of well drained soils.

The layout of an orchard should include outlets for water flowing into the orchard from higher areas and water flowing out of the orchard. Field borders and diversions that empty into grassed waterways dispose of water without causing erosion. Sod should be used between rows of trees and on all roads and erosion-control structures. It should be established as soon as possible after construction. Rows of trees should be planted on the contour and as nearly parallel to each other as possible. This arrangement helps to control erosion and allows easy access. Access roads are very important. Short or dead-end roads make access with equipment difficult, and roads with sharp turns or grades of more than 10 percent should not be constructed. Wet areas and natural drainageways should be avoided as sites for roads. If these areas are unavoidable, earth-berm water bars and culverts should be installed.

The soils in Salem County have insufficient natural fertility to sustain high-producing orchards. They are too acid and are typically low in nitrogen and phosphorus. Application rates for lime and fertilizer should be determined by tissue analysis of the trees and by soil analysis. Lime and fertilizer should be applied to access roads and erosion-control structures to help maintain the sod.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for forestland or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, 2e. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c,* used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, forestland, wildlife habitat, or recreation.

The acreage of soils in each capability class or subclass is shown in table 6. The acreage listed as “Unclassified” includes that of the minor components in the individual map units, any water areas of significant size, and other miscellaneous areas. Minor components were not assigned a land capability class because they are of minimal extent in the map unit. The capability classification of map units in this survey area is given in the section “Detailed Soil Map Units” and in the yields table.

Prime Farmland and Other Important Farmlands

Table 7 lists the map units in the survey area that are considered prime farmland, unique farmland, and farmland of statewide importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation’s food supply.

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation’s short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation’s prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from

0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 88,272 acres, or nearly 40 percent of Salem County, would meet the requirements for prime farmland if an adequate and dependable supply of irrigation water were available.

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops when properly managed. The water supply is dependable and of adequate quality. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

In some areas, land that does not meet the criteria for prime farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed in table 7. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading “Detailed Soil Map Units.”

Agricultural Waste Management

Soil properties are important considerations in areas where soils are used as sites for the treatment and disposal of organic waste and wastewater. Selection of soils with properties that favor waste management can help to prevent environmental damage.

Tables 8a and 8b show the degree and kind of soil limitations affecting the treatment of agricultural waste, including municipal and food-processing wastewater and effluent from lagoons or storage ponds. Municipal wastewater is the waste stream from a municipality. It contains domestic waste and may contain industrial waste. It may have received primary or secondary treatment. It is rarely untreated sewage. Food-processing wastewater results from the preparation of fruits, vegetables, milk, cheese, and meats for public consumption. In places it is high in content of sodium and chloride. In the context of these tables, the effluent in lagoons and storage ponds is from facilities used to treat or store food-processing wastewater or domestic or animal waste. Domestic and food-processing wastewater is very dilute, and the effluent from the facilities that treat or store it commonly is very low in content of carbonaceous and nitrogenous material; the content of nitrogen commonly ranges

from 10 to 30 milligrams per liter. The wastewater from animal waste treatment lagoons or storage ponds, however, has much higher concentrations of these materials, mainly because the manure has not been diluted as much as the domestic waste. The content of nitrogen in this wastewater generally ranges from 50 to 2,000 milligrams per liter. When wastewater is applied, checks should be made to ensure that nitrogen, heavy metals, and salts are not added in excessive amounts.

The ratings in the tables are for waste management systems that not only dispose of and treat organic waste or wastewater but also are beneficial to crops (application of manure and food-processing waste and application of sewage sludge) and for waste management systems that are designed only for the purpose of wastewater disposal and treatment (rapid infiltration of wastewater and slow rate treatment of wastewater).

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect agricultural waste management. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Application of manure and food-processing waste not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. Manure is the excrement of livestock and poultry, and food-processing waste is damaged fruit and vegetables and the peelings, stems, leaves, pits, and soil particles removed in food preparation. The manure and food-processing waste are either solid, slurry, or liquid. Their nitrogen content varies. A high content of nitrogen limits the application rate. Toxic or otherwise dangerous wastes, such as those mixed with the lye used in food processing, are not considered in the ratings.

The ratings are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the waste is applied, and the method by which the waste is applied. The properties that affect absorption include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to a fragipan, and available water capacity. The properties that affect plant growth and microbial activity include reaction, the sodium adsorption ratio, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. A water table, ponding, and flooding can hinder the application of waste. Permanently frozen soils are unsuitable for waste treatment.

Application of sewage sludge not only disposes of waste material but also can improve crop production by increasing the supply of nutrients in the soils where the material is applied. In the context of this table, sewage sludge is the residual product of the treatment of municipal sewage. The solid component consists mainly of cell mass, primarily bacteria cells that developed during secondary treatment and have incorporated soluble organics into their own bodies. The sludge has small amounts of sand, silt, and other solid debris. The content of nitrogen varies. Some sludge has constituents that are toxic to plants or hazardous to the food chain, such as heavy

metals and exotic organic compounds, and should be analyzed chemically prior to use.

The content of water in the sludge ranges from about 98 percent to less than 40 percent. The sludge is considered liquid if it is more than about 90 percent water, slurry if it is about 50 to 90 percent water, and solid if it is less than about 50 percent water.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, the rate at which the sludge is applied, and the method by which the sludge is applied. The properties that affect absorption, plant growth, and microbial activity include permeability, depth to a water table, ponding, the sodium adsorption ratio, depth to a fragipan, available water capacity, reaction, salinity, and bulk density. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood that wind erosion or water erosion will transport the waste material from the application site. Stones, cobbles, a water table, ponding, and flooding can hinder the application of sludge.

Rapid infiltration of wastewater is a process in which wastewater applied in a level basin at a rate of 4 to 120 inches per week percolates through the soil. The wastewater may eventually reach the ground water. The application rate commonly exceeds the rate needed for irrigation of cropland. Vegetation is not a necessary part of the treatment; hence, the basins may or may not be vegetated. The thickness of the soil material needed for proper treatment of the wastewater is more than 72 inches. As a result, geologic and hydrologic investigation is needed to ensure proper design and performance and to determine the risk of ground-water pollution.

The ratings in the table are based on the soil properties that affect the risk of pollution and the design, construction, and performance of the system. Depth to a water table, ponding, flooding, and depth to a fragipan affect the risk of pollution and the design and construction of the system. Slope also affects design and construction. Permeability and reaction affect performance.

Slow rate treatment of wastewater is a process in which wastewater is applied to land at a rate normally between 0.5 inch and 4.0 inches per week. The application rate commonly exceeds the rate needed for irrigation of cropland. The applied wastewater is treated as it moves through the soil. Much of the treated water may percolate to the ground water, and some enters the atmosphere through evapotranspiration. The applied water generally is not allowed to run off the surface. Waterlogging is prevented either through control of the application rate or through the use of tile drains, or both.

The ratings in the table are based on the soil properties that affect absorption, plant growth, microbial activity, erodibility, and the application of waste. The properties that affect absorption include the sodium adsorption ratio, depth to a water table, ponding, available water capacity, permeability, depth to a fragipan, reaction, the cation-exchange capacity, and slope. Reaction, the sodium adsorption ratio, salinity, and bulk density affect plant growth and microbial activity. The wind erodibility group, the soil erodibility factor K, and slope are considered in estimating the likelihood of wind erosion or water erosion. A water table, ponding, and flooding can hinder the application of waste.

Forestland Productivity and Management

Albert Coffey, forester, Natural Resources Conservation Service, helped to prepare this section.

Owners of woodland in Salem County have many objectives. These objectives include producing timber; conserving wildlife, soil, and water; preserving esthetic values; and providing opportunities for recreational activities. Public demand for clean water and recreational areas creates pressures and opportunities for owners of woodland.

Soils influence the distribution and growth of tree species in Salem County. For example, Atlantic white cedar grows well in areas of very poorly drained organic soils. Sweetgum, yellow-poplar, and red maple are adapted to grow in areas of poorly drained or very poorly drained mineral soils, such as those in the Fallsington, Mullica, and Othello series. White oak, scarlet oak, and black oak grow in areas of well drained soils that have moderate moisture content, such as those in the Chillum, Sassafras, and Downer series. Post oak, pitch pine, and chestnut oak grow in areas of soils with low moisture content, such as those in the sandy Evesboro and Galestown series. Pitch pine is also adapted to poorly drained and very poorly drained sandy soils, such as those in the Askecksy and Berryland series, which can also become droughty in the summer as the seasonal high water table is lowered. Soil serves as a reservoir for moisture, provides an anchor for roots, and supplies most of the available nutrients. These three qualities are directly or indirectly affected by organic matter content, reaction, fertility, drainage, texture, structure, depth, and landscape position.

The ability of a soil to serve as a reservoir for moisture, as measured by the available water capacity, is primarily influenced by texture, organic matter content, rooting depth, and content of rock fragments. Because of the fairly evenly distributed, abundant summer rainfall in Salem County, the available water capacity is a limitation affecting tree growth mainly on sandy, excessively drained or somewhat excessively drained soils, such as those in the Evesboro and Galestown series.

The available supply of nutrients for tree growth is affected by several soil properties. Mineral horizons in the soil are important. Mineralization of humus releases nitrogen and other nutrients to plants. Calcium, magnesium, and potassium are held within the humus. Very small amounts of these nutrients are made available by the weathering of clay and silt particles. Most of the upland soils have been leached and contain only small amounts of nutrients below the surface layer. Soils that have a thin surface layer must be carefully managed during site preparation so that the surface layer is not removed or degraded.

The living plant community is part of the nutrient reservoir. The decomposition of leaves, stems, and other organic material recycles the nutrients that have accumulated in the forest ecosystem. Fire, excessive trampling by livestock, and erosion can result in the loss of these nutrients. Woodland management should include prevention of wildfires and protection from overgrazing.

In table 9, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the “National Forestry Manual,” which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Recreation

The soils of the survey area are rated in tables 10a and 10b according to limitations that affect their suitability for recreation. The ratings are both verbal and

numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in tables 10a and 10b can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, disposal fields, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope and depth to a fragipan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, and permeability. The soil properties that affect the growth of plants are depth to a fragipan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope is the main concern affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, and permeability. The soil properties that affect the growth of plants are depth to a fragipan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect

the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope is the main concern affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, and permeability. The soil properties that affect the growth of plants are depth to a fragipan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction, depth to a water table, ponding, depth to a fragipan, the available water capacity in the upper 40 inches, the content of salts, and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

The soils of Salem County are capable of supporting diverse vegetative communities and wildlife habitat. The interspersing of cropland, idle fields, and borders of hardwood and pine forest provide diverse plant communities, or “edges,” utilized by many wildlife species. Other wildlife, including small, isolated reptile and amphibian populations, require more specialized wetland habitats. Hydric soils, such as those in the Mullica, Manahawkin, Chicone, and Berryland series, can support the unique vegetation and habitat needed for these wildlife species.

The wildlife populations in Salem County can be maintained or increased through careful land-use planning, improvement of existing habitat, habitat preservation, and continued public education. Most of the wildlife habitat in the county is privately owned; therefore, much of the initiative to maintain or improve the wildlife populations in the county ultimately depends on the cooperation and awareness of individual landowners. Public sponsored programs can provide incentives to private individuals for wildlife conservation, ensuring that adequate wildlife populations exist for the enjoyment of future generations.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 11, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific

elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, and flooding. Soil temperature and soil moisture also are considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture also are considerations. Examples of grasses and legumes are fescue, bromegrass, clover, and alfalfa.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, and flooding. Soil temperature and soil moisture also are considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, and switchgrass.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, red maple, apple, dogwood, and hickory. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are blackberry and blueberry.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pitch pine, Atlantic white cedar, red cedar, and juniper.

Shrubs are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs are depth of the root zone, available water capacity, salinity, and soil moisture. Examples of shrubs are blackberry, blueberry, laurel, and shadbush.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, salinity, and slope. Examples of wetland plants are smartweed, wildrice, saltgrass, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 2 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are wetness, slope, and

permeability. Examples of shallow water areas are marshes and waterfowl feeding areas.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. Wildlife attracted to these areas include bobwhite quail, pheasant, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous and/or coniferous plants and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, osprey, and beaver.

Hydric Soils

In this section, hydric soils are defined and described. The hydric soils in the survey area are listed in table 12. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council 1995; Hurt, Whited, and Pringle 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others 1979; U.S. Army Corps of Engineers 1987; National Research Council 1995; Tiner 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species (fig. 7). Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Figure 7.—Hydrophytic vegetation is dominant in this area of Transquaking mucky peat, 0 to 1 percent slopes, very frequently flooded. This particular type of vegetation is specially adapted to prolonged or permanent wet soil conditions that occur in the Transquaking soils. This area is an estuarine tidal marsh during high tide.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (Soil Survey Staff 1999) and “Keys to Soil Taxonomy” (Soil Survey Staff 2003) and in the “Soil Survey Manual” (Soil Survey Division Staff 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in “Field Indicators of Hydric Soils in the United States” (Hurt, Whited, and Pringle 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
   B. are poorly drained or very poorly drained and have either:
      1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
      2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
      3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading “Soil Properties.”

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 13a and 13b show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very

favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to a fragipan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to a fragipan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to a fragipan, depth to a water table, ponding, flooding, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to a fragipan and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction, depth to a water table, ponding, depth to a fragipan, the available water capacity in the upper 40 inches, the content of salts, and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 14 and 15 show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and disposal field areas as they apply to New Jersey regulations. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to a restrictive horizon, and flooding affect absorption of the effluent. Stones, ice, and a restrictive horizon interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas. These ratings are based on soil parameters that are not specific to any particular state but were developed to provide general suitability throughout the United States.

Some soils are underlain by loose sand and gravel at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to a restrictive horizon, flooding, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in

contamination of the ground water. Ground-water contamination is also a hazard if the water table is high enough to raise the level of sewage in the lagoon or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope and restrictive horizons can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over the restrictive horizon to make land smoothing practical.

Table 15 provides ratings for sewage disposal field areas based on New Jersey regulations regarding on-lot sewage disposal systems. *Disposal field* refers to areas where sewage effluent is discharged into the ground for additional treatment and disposal (New Jersey Department of Environmental Protection 1999). In this process, most of the suspended solids in the effluent are retained in the septic tank. The septic tank effluent, now much lower in suspended solids, is further treated in the soil, both by physical filtering and by biological treatment, mainly by bacteria. The treated effluent is disposed of through downward movement through the soil or through lateral (horizontal) movement in soil layers above hydraulically restrictive layers. The soil is evaluated from the surface to a depth of 300 centimeters, or about 10 feet. Soil data maintained by U.S. Department of Agriculture, Natural Resources Conservation Service, is for soil material to a depth of only 203 cm, or 80 inches, and soil properties are evaluated to this depth. Ratings provided in table 15 are based on the soil properties that affect the absorption of the effluent, construction, and pollution of ground water and surface water. Zone of saturation (an apparent or a perched water table), permeability, a restrictive layer and the substratum, and the percentage of coarse fragments affect the absorption and treatment of the effluent.

Because of public health concerns, depth to the zone of saturation is a major factor in determining soil suitability for disposal field areas. A limited depth to the zone of saturation limits the ability of the soil to remove pathogens, nutrients, and other waste components and increases the risk of ground-water contamination.

Massive bedrock and hydraulically restrictive or slowly permeable horizons or substrata can slow downward movement of sewage effluent. The effluent can build up, or “mound,” causing prolonged saturated conditions. Lateral seepage of untreated or minimally treated effluent may result, creating a greater risk of surface water contamination.

Very rapid permeability associated with fractured bedrock or excessively coarse horizons or substrata may not provide adequate filtering capability for effective treatment of effluent, resulting in ground-water contamination.

Following are brief descriptions of the primary disposal system types permitted in New Jersey.

Conventional installation type (C).—The disposal bed or individual disposal trench is installed in an excavated area of natural soil.

Soil replacement type.—The disposal bed or individual disposal trench is installed on top of or in suitable fill material that was added to an excavated area that is below the original soil surface. In a bottom-lined soil replacement installation, or SRB, the fill material underlies the disposal field only. In a fill-enclosed soil replacement installation, or SRE, it underlies the disposal field and is added along the sides of the disposal bed.

Mound installation type (M).—The disposal field is installed in suitable fill material that has been mounded above the original soil surface.

Interceptor drain (C drain).—Although not an actual type of disposal system, interceptor drains are installed in sloping areas to intercept laterally moving ground water that is perched above a hydraulically restrictive horizon. The drains are installed in areas higher on the landscape and along the sides of disposal systems in order to

reduce the amount of perched water entering the disposal system and thereby increase the functionality of the system.

Since these different types of disposal systems are used for various soil and site conditions, refer to NJAC 7: 9A, "Standards for Individual Subsurface Sewage Disposal Systems," for more detailed and specific explanations, definitions, and requirements for each of these systems and further explanation of the New Jersey suitability classes described in the following paragraphs (New Jersey Department of Environmental Protection 1999).

The Roman numerals I, II, and III in the codes are indicative of the severity of the limitation (I is least limiting, and III is most limiting). In general, the severity of a limitation increases as the depth to the limiting condition decreases.

Water table refers to a saturated zone in the soil. The code *Wr* refers to a regional water table, and the code *Wp* refers to a perched water table.

The term "horizon" refers to a layer of soil or rock material in a soil boring or pit that differs from the layers of soil above and below it in one or more soil morphological characteristics, including color, texture, content of rock fragments, structure, consistence, and redoximorphic features. The code *Hc* refers to an excessively coarse textured horizon, and the code *Hr* refers to a hydraulically restrictive horizon.

The term "substratum" refers to the part of the soil below the solum where soil formation processes are generally not significant. It is the deepest layer of soil or rock material observed in a soil boring or pit. The upper boundary of the layer is visible, but the lower boundary is undetermined. The layer is expected, however, to extend through the required depth of evaluation (10 feet). The code Sc refers to an excessively coarse textured layer, and the code Sr refers to a hydraulically restrictive layer.

Construction Materials

Tables 16a and 16b give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In table 16a, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair,* or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The soils are rated *good, fair,* or *poor* as potential sources of reclamation material, roadfill, and topsoil. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, or topsoil. The lower the number, the greater the limitation.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to a fragipan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Water Management

Table 17 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 18 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 19 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In table 19, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In table 19, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 19, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other

soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability (K_{sat}) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 19, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors

being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.

2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.

3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.

5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.

6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.

7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.

8. Soils that are not subject to wind erosion because of rock fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 20 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliquivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliquivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory

analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete. It does not affect most of the soils in Salem County. Soils in the Appoquinimink, Broadkill, Manahawkin, Mannington, Nanticoke, and Transquaking series are the only soils for which estimated soluble salt levels can be provided. Seawater is the source of salinity in these soils.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Soil Features

Table 21 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are fragipans and dense layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and

acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Water Features

Table 22 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are *negligible, very low, low, medium, high,* and *very high*.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 22 indicates *surface water depth* and the *duration* and *frequency* of ponding.

Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff 1999, 2003). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 23 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Ultisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udults (*Ud*, meaning humid, plus *ult*, from Ultisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Hapludults (*Hapl*, meaning minimal horizonation, plus *udult*, the suborder of the Ultisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Hapludults.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is coarse-loamy, siliceous, semiactive, mesic Typic Hapludults.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each

series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the “Soil Survey Manual” (Soil Survey Division Staff 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (Soil Survey Staff 1999) and in “Keys to Soil Taxonomy” (Soil Survey Staff 2003). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

For soils listed as minor components in the “Detailed Soil Map Units” section but not included in this section, the soil series pedon description and range in characteristics are available on the Internet at <http://ortho.ftw.nrcs.usda.gov/cgi-bin/osd/osdname.cgi>.

Adelphia Series

Drainage class: Moderately well drained
Permeability: Moderate to rapid
Landscape: North Atlantic Coastal Plain
Landform: Low hills
Parent material: Glauconite-bearing loamy eolian deposits or glauconite-bearing loamy fluviomarine deposits, or both
Slope range: 2 to 5 percent

Taxonomic class: Fine-loamy, mixed, active, mesic Aquic Hapludults

Typical Pedon

Adelphia sandy loam, in an area of Adelphia sandy loam, 2 to 5 percent slopes, in Salem County, New Jersey; about 0.9 mile north of the intersection of Long Bridge Road and Route 623, about 0.5 mile northeast of Route 623, and 0.25 mile south of Canton Cemetery, along the west side of Smick Road, in a cultivated field; USGS Canton topographic quadrangle; lat. 39 degrees 28 minutes 38 seconds N. and long. 75 degrees 24 minutes 43 seconds W.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) sandy loam; moderate medium granular structure; friable; nonsticky, nonplastic; common fine roots; slightly acid; abrupt smooth boundary.

BE—10 to 16 inches; very pale brown (10YR 7/3) sandy loam; weak medium subangular blocky structure; friable; nonsticky, nonplastic; common very fine and fine roots; 1 percent faint clay bridging between sand grains; 1 percent prominent yellowish brown (10YR 5/8) masses of accumulated iron and manganese oxide with clear boundaries throughout; slightly acid; gradual smooth boundary.

Bt1—16 to 26 inches; light yellowish brown (2.5Y 6/4) sandy loam; weak medium subangular blocky structure; friable; nonsticky, nonplastic; common very fine and fine roots; 10 percent faint clay films on faces of peds and in pores and 10 percent faint clay bridging between sand grains; 1 percent prominent irregular brownish yellow (10YR 6/8) masses of accumulated iron and manganese oxide with clear boundaries throughout; 10 percent glauconite pellets; moderately acid; clear smooth boundary.

Bt2—26 to 30 inches; yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common very fine and fine roots; 10 percent faint clay films on faces of peds and in pores and 10 percent faint clay bridging between sand grains; 1 percent distinct irregular light yellowish brown (10YR 6/4) masses of accumulated iron and manganese oxide with clear boundaries throughout; 10 percent glauconite pellets; moderately acid; gradual smooth boundary.

Bt3—30 to 38 inches; yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; 15 percent faint clay films on faces of peds and in pores and 15 percent faint clay bridging between sand grains; 2 percent distinct irregular yellowish brown (10YR 5/8) masses of accumulated iron and manganese oxide with clear boundaries throughout; 2 percent distinct irregular light brownish gray (2.5Y 6/2) iron depletions with clear boundaries throughout; 10 percent glauconite pellets; moderately acid; clear smooth boundary.

Bt4—38 to 46 inches; yellowish brown (10YR 5/6) gravelly sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; 15 percent faint clay films on faces of peds and in pores and 15 percent faint clay bridging between sand grains; 1 percent prominent irregular light brownish gray (2.5Y 6/2) iron depletions with clear boundaries throughout; 10 percent glauconite pellets; 18 percent rounded indurated quartzite fragments; moderately acid; gradual smooth boundary.

Bt5—46 to 56 inches; brownish yellow (10YR 6/6) gravelly sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; 15 percent faint clay films on faces of peds and in pores and 15 percent faint clay bridging between sand grains; 1 percent distinct irregular yellowish brown (10YR 5/8) masses of accumulated iron and manganese oxide with clear boundaries throughout; 1 percent prominent irregular light brownish gray (2.5Y 6/2) iron depletions with clear boundaries throughout; 10 percent glauconite pellets; 20 percent rounded indurated quartzite fragments; moderately acid; clear smooth boundary.

C1—56 to 62 inches; brownish yellow (10YR 6/6) sandy loam; massive; friable; nonsticky, nonplastic; 1 percent medium prominent irregular pale red (2.5YR 6/2) iron depletions with diffuse boundaries throughout; 10 percent glauconite pellets; moderately acid; clear smooth boundary.

C2—62 to 69 inches; light olive brown (2.5Y 5/6) fine sandy loam; massive; friable; nonsticky, nonplastic; 1 percent medium prominent irregular pale red (2.5YR 6/2) iron depletions with diffuse boundaries throughout; 10 percent glauconite pellets; moderately acid; clear smooth boundary.

C3—69 to 72 inches; light yellowish brown (2.5Y 6/4) fine sandy loam; massive; friable; nonsticky, nonplastic; 1 percent medium distinct irregular pale red (2.5YR 6/2) iron depletions with diffuse boundaries throughout; 10 percent glauconite pellets; moderately acid.

Range in Characteristics

Depth to bedrock: More than 72 inches

Depth to the seasonal high water table: 18 to 42 inches (January to April)

Content of rock fragments: 0 to 5 percent, by volume, to a depth of 40 inches; 0 to 30 percent below 40 inches

Reaction: In unlimed areas, extremely acid to strongly acid throughout

Content of glauconite: 0 to 10 percent, by volume, glauconite pellets in the A and E horizons, 10 to 20 percent in the B horizon, and 2 to 40 percent in the C horizon

O horizon (if it occurs):

Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3

Type of organic soil material—slightly decomposed to highly decomposed plant material

A or Ap horizon:

Color—hue of 7.5YR to 2.5Y, value of 3 or 4, and chroma of 1 to 4

Texture—loamy fine sand, sandy loam, fine sandy loam, loam, or silt loam

E horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 1 to 4
Texture—loamy fine sand, sandy loam, fine sandy loam, loam, or silt loam

BA or BE horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture—sandy loam, fine sandy loam, loam, or silt loam

Bt horizon:
Color—hue of 7.5YR to 5Y, value of 4 to 6, and chroma of 3 to 6
Texture of the fine-earth fraction—fine sandy loam, sandy loam, sandy clay loam, clay loam, or loam
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

BC horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 4 or 5, and chroma of 3 to 6
Texture of the fine-earth fraction—fine sandy loam, sandy loam, sandy clay loam, clay loam, or loam
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

BCg horizon (if it occurs):
Color—hue of 10YR to 5G, value of 4 to 8, and chroma of 1 or 2 or is neutral with value of 4 to 8
Texture of the fine-earth fraction—loamy sand, sandy loam, or fine sandy loam or stratified with these textures
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

C horizon:
Color—hue of 10YR to 5Y, value of 4 or 5, and chroma of 3 to 8
Texture of the fine-earth fraction—loamy sand, sandy loam, or fine sandy loam or stratified with these textures; clay loam or silty clay loam subhorizons in some pedons
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Cg horizon (if it occurs):
Color—hue of 10YR to 5G, value of 4 to 8, and chroma of 1 or 2 or is neutral with value of 4 to 8
Texture—loamy sand, sandy loam, or fine sandy loam or stratified with these textures; clay loam or silty clay loam subhorizons in some pedons
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Alloway Series

Drainage class: Moderately well drained
Permeability: Slow and moderately slow
Landscape: North Atlantic Coastal Plain

Landform: Broad ridges
Parent material: Silty and clayey eolian deposits or fluviomarine deposits, or both
Slope range: 0 to 10 percent

Taxonomic class: Fine, mixed, active, mesic Aquic Paleudults

Typical Pedon

Alloway silt loam, in an area of Alloway silt loam, 2 to 5 percent slopes, in Salem County, New Jersey; about 0.15 mile west of Swedes Bridge Road at a point 0.1 mile south of the intersection of Portertown Road and Swedes Bridge Road, in a cultivated area; USGS Salem topographic quadrangle; lat. 39 degrees 36 minutes 00 seconds N. and long. 75 degrees 22 minutes 51 seconds W.

Ap—0 to 11 inches; dark yellowish brown (10YR 4/4) silt loam, yellowish brown (10YR 5/4) dry; strong medium and coarse granular structure; friable; moderately sticky, moderately plastic; few fine and medium roots; slightly acid; abrupt smooth boundary.

Bt1—11 to 18 inches; yellowish brown (10YR 5/6) silty clay loam; strong coarse subangular blocky structure parting to strong medium subangular blocky; firm; very sticky, very plastic; few very fine and fine roots; 35 percent faint clay films; slightly acid; clear smooth boundary.

Bt2—18 to 24 inches; yellowish brown (10YR 5/8) silty clay loam; strong fine and medium subangular blocky structure; firm; very sticky, very plastic; few very fine and fine roots; 35 percent faint clay films; slightly acid; clear smooth boundary.

Bt3—24 to 32 inches; yellowish brown (10YR 5/6) clay loam; strong medium and coarse subangular blocky structure; friable; moderately sticky, moderately plastic; few very fine and fine roots; 35 percent faint clay films; 1 percent fine prominent irregular light gray (10YR 7/1) iron depletions with clear boundaries throughout; 1 percent fine distinct irregular strong brown (7.5YR 5/8) masses of accumulated iron and manganese oxide with diffuse boundaries throughout; 10 percent rounded fine to coarse quartzite fragments; moderately acid; clear smooth boundary.

Bt4—32 to 39 inches; reddish yellow (7.5YR 6/8) clay loam; strong medium and coarse subangular blocky structure; friable; moderately sticky, moderately plastic; few very fine and fine roots; 35 percent faint clay films; 10 percent fine prominent irregular light gray (10YR 7/1) iron depletions with clear boundaries throughout; 5 percent rounded medium quartzite fragments; moderately acid; gradual smooth boundary.

Bt5—39 to 48 inches; reddish yellow (7.5YR 6/8) clay loam; strong medium and coarse subangular blocky structure; friable; very sticky, very plastic; few very fine and fine roots; 35 percent faint clay films; 10 percent fine prominent irregular pinkish gray (7.5YR 7/2) iron depletions with clear boundaries throughout; moderately acid; clear smooth boundary.

C—48 to 65 inches; reddish yellow (7.5YR 6/8) clay; massive; friable; very sticky, very plastic; few very fine and fine roots; 35 percent faint clay films; 10 percent fine prominent irregular pinkish gray (7.5YR 7/2) iron depletions with clear boundaries throughout; moderately acid; clear smooth boundary.

Cg—65 to 80 inches; light gray (10YR 7/2) clay; massive; friable; very sticky, very plastic; few very fine and fine roots; 35 percent faint clay films; 10 percent fine prominent irregular yellowish red (5YR 5/6) masses of accumulated iron and manganese oxide with diffuse boundaries throughout; moderately acid.

Range in Characteristics

Depth to bedrock: More than 80 inches
Depth to the seasonal high water table: 18 to 42 inches (January to April)

Content of rock fragments: 0 to 15 percent, by volume, throughout the profile; mostly rounded quartzite gravel
Reaction: In unlimed areas, extremely acid to strongly acid throughout

Ap or A horizon:
Color—hue of 7.5YR to 2.5Y, value of 2 to 6, and chroma of 1 to 4
Texture of the fine-earth fraction—sandy loam, loam, or silt loam

E, BE, or BA horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6
Texture of the fine-earth fraction—sandy clay loam, sandy loam, loam, or silt loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 4 to 7, and chroma of 3 to 8
Texture of the fine-earth fraction—sandy clay loam, sandy clay, clay, clay loam, silt loam, silty clay loam, or silty clay
Redoximorphic features—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Btg horizon:
Color—hue of 5YR to 10YR, value of 4 to 7, and chroma of 1 or 2 or is neutral with value of 4 to 7
Texture of the fine-earth fraction—sandy clay loam, sandy clay, clay, clay loam, silt loam, silty clay loam, or silty clay
Redoximorphic features—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

BC horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 4 to 8, and chroma of 3 to 8
Texture of the fine-earth fraction—sandy clay loam, sandy clay, clay, clay loam, silt loam, silty clay loam, or silty clay
Redoximorphic features—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

C horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 2 to 7, and chroma of 3 to 8
Texture of the fine-earth fraction—ranges from loamy sand to clay
Redoximorphic features—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Cg horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 3 to 7, and chroma of 1 or 2 or is neutral with value of 2 to 7
Texture of the fine-earth fraction—ranges from loamy sand to clay
Redoximorphic features—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Appoquinimink Series

Drainage class: Very poorly drained
Permeability: Moderate
Landscape: North Atlantic Coastal Plain

Landform: Tidal flats
Parent material: Loamy fluviomarine deposits over herbaceous organic material
Slope range: 0 to 1 percent

Taxonomic class: Fine-silty, mixed, active, nonacid, mesic Thapto-Histic Sulfaquents

Typical Pedon

Appoquinimink mucky silt loam, in an area of Appoquinimink-Broadkill complex, 0 to 1 percent slopes, very frequently flooded, in Cape May County, New Jersey; 1.8 miles west of South Dennis, 2,300 feet southwest of a boat ramp on Dennis Creek at the end of Jakes Landing Road, and 300 feet west and 400 feet north of Dennis Creek at a sharp bend in the creek, in a tidal marsh; USGS Woodbine topographic quadrangle; lat. 39 degrees 10 minutes 32 seconds N. and long. 74 degrees 51 minutes 32 seconds W.

Ag—0 to 12 inches; very dark gray (5Y 3/1) mucky silt loam; massive; friable; slightly sticky, slightly plastic; many fine roots; neutral; clear smooth boundary.
Cg—12 to 30 inches; dark gray (5Y 4/1) silt loam; massive; friable; slightly sticky, slightly plastic; neutral; abrupt smooth boundary.
Oe—30 to 70 inches; dark olive gray (5Y 3/2) mucky peat; 40 percent fiber, rubbed; neutral; abrupt smooth boundary.
C'g—70 to 90 inches; dark gray (5Y 4/1) silt loam; massive; friable; slightly sticky, slightly plastic; neutral.

Range in Characteristics

Depth to bedrock: More than 90 inches
Seasonal high water table: At the surface (January to December); flooded by tidal waters twice daily
Depth to underlying organic layers: 16 to 40 inches
Content of fragments: 0 to 10 percent, by volume, in the mineral layers, mostly shells and shell fragments; none in the organic horizon
Electrical conductivity throughout the profile: More than 8 millimhos per centimeter
Reaction: Slightly acid to slightly alkaline when wet or moist; ultra acid or extremely acid within 20 inches of the surface after moist incubation
Other features: n-value typically more than 1.0 but ranges from 0.7 to more than 1.0

Ag horizon:
Color—hue of 10YR to 5GY, value of 2 to 4, and chroma of 1 or 2 or is neutral with value of 2 to 4
Texture—mucky silt loam, silt loam, or silty clay loam
Organic matter content—5 to 15 percent

Cg horizon:
Color—hue of 10YR to 5GY, value of 2 to 6, and chroma of 1 or 2 or is neutral with value of 2 to 6
Texture—silt loam, silty clay loam, or mucky silt loam
Organic matter content—1 to 10 percent

O horizon:
Color—hue of 5YR to 2.5Y, value of 2 to 5, and chroma of 1 to 4 or is neutral with value of 2 to 5
Type of organic soil material—muck or mucky peat (sapric or hemic soil materials); fiber content after rubbing ranges from 5 to 50 percent of the soil volume
Content of mineral material—10 to 70 percent by weight; lenses of silt, silt loam, or very fine sand in some pedons

C'g horizon:

Color—hue of 10YR to 5GY, value of 2 to 6, and chroma of 1 or 2 or is neutral with value of 2 to 6

Texture—silt loam, mucky silt loam, loam, very fine sandy loam, fine sandy loam, or sandy loam

Organic matter content—1 to 10 percent; thin lenses of organic soil material less than 8 inches thick in some pedons

Askecksy Series

Drainage class: Poorly drained
Permeability: Rapid
Landscape: North Atlantic Coastal Plain
Landform: Depressions, flood plains, and flats
Parent material: Sandy fluviomarine deposits
Slope range: 0 to 2 percent

Taxonomic class: Siliceous, mesic Typic Psammaquents

Typical Pedon

Askecksy loamy sand, in an area of Pedricktown, Askecksy, and Mullica soils, 0 to 2 percent slopes, rarely flooded, in Salem County, New Jersey; about 750 feet northeast along New Road from the intersection of Perkintown Road and New Road, 687 feet east on New Road, in a wooded area; USGS Penns Grove topographic quadrangle; lat. 39 degrees 44 minutes 37.10 seconds N. and long. 75 degrees 25 minutes 51.47 seconds W.

Ag—0 to 9 inches; black (10YR 2/1) loamy sand; single grain; loose; nonsticky, nonplastic; common very fine and fine roots and few medium and coarse roots; extremely acid; clear wavy boundary.

Cg1—9 to 11 inches; dark gray (10YR 4/1) sand; single grain; loose; nonsticky, nonplastic; 1 percent fine prominent brownish yellow (10YR 6/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; 2 percent rounded fine to coarse quartzite fragments; extremely acid; gradual wavy boundary.

Cg2—11 to 28 inches; light brownish gray (10YR 6/2) sand; single grain; loose; nonsticky, nonplastic; 1 percent fine prominent brownish yellow (10YR 6/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; 2 percent rounded fine to coarse quartzite fragments; very strongly acid; clear smooth boundary.

Cg3—28 to 31 inches; very dark grayish brown (10YR 3/2) sand; single grain; loose; nonsticky, nonplastic; 15 percent medium prominent light olive gray (5Y 6/2) iron depletions with clear boundaries throughout; 2 percent rounded fine to medium quartzite fragments; extremely acid; clear smooth boundary.

Cg4—31 to 80 inches; light brownish gray (10YR 6/2) sand; single grain; loose; nonsticky, nonplastic; 1 percent fine prominent brownish yellow (10YR 6/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; 2 percent fine distinct masses of accumulated iron and manganese oxide with clear boundaries throughout; 2 percent rounded fine to medium quartzite fragments; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 80 inches
Depth to a 2C horizon (if it occurs): More than 50 inches
Seasonal high water table: Within a depth of 12 inches (December to May)

Content of rock fragments: 0 to 5 percent, by volume, in the A horizon and 0 to 20 percent in the C horizon; mostly rounded quartz gravel
Electrical conductivity: 0 to 4 millimhos per centimeter in the A horizon and less than 2 millimhos per centimeter in the C horizon
Reaction: In unlimed areas, extremely acid to strongly acid

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 2 to 6, and chroma of 1 or 2
Texture—loamy sand, loamy fine sand, or sand

Ab horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 2 to 4, and chroma of 1 to 4
Texture—loamy sand, loamy fine sand, or sand

Cg horizon:
Color—hue of 10YR to 5GY, value of 4 to 7, and chroma of 1 or 2 or is neutral with value of 4 to 7
Texture of the fine-earth fraction—loamy sand, loamy fine sand, or fine to coarse sand
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

2C horizon (if it occurs):
Color—lower in value and chroma than the overlying horizon
Texture of the fine-earth fraction—silt loam to sandy clay loam; commonly stratified with textures ranging from silty clay loam to coarse sand
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Aura Series

Drainage class: Well drained
Permeability: Moderately slow in the fragipan
Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills
Parent material: Loamy or gravelly old alluvium, or both (fig. 8)
Slope range: 0 to 10 percent

Taxonomic class: Coarse-loamy, siliceous, semiactive, mesic Typic Fragiudults

Typical Pedon

Aura sandy loam, in an area of Aura sandy loam, 2 to 5 percent slopes, in Gloucester County, New Jersey; 0.5 mile northeast of Bluebell, from the intersection of Victoria Avenue and Tuckahoe Road, in a cultivated field; USGS Buena topographic quadrangle; lat. 39 degrees 34 minutes 23 seconds N. and long. 74 degrees 58 minutes 10 seconds W.

Ap—0 to 8 inches; dark yellowish brown (10YR 3/4) sandy loam, dark grayish brown (10YR 4/2) dry; moderate fine granular structure; friable; many fine and medium roots; extremely acid; abrupt smooth boundary.
Bt1—8 to 13 inches; strong brown (7.5YR 5/6) coarse sandy loam; 1 percent fine faint strong brown (7.5YR 4/6) and 1 percent medium distinct very pale brown (10YR 7/4) mottles; weak medium subangular blocky structure; friable; many fine roots; 30 percent distinct clay bridging between sand grains; 5 percent rounded fine to coarse quartzite fragments; extremely acid; gradual wavy boundary.

Bt2—13 to 22 inches; strong brown (7.5YR 5/6) coarse sandy loam; 1 percent medium distinct light yellowish brown (10YR 6/4) mottles; weak medium subangular blocky structure; friable; many fine roots; 30 percent distinct clay bridging between sand grains; 10 percent rounded fine to coarse quartzite fragments; extremely acid; clear smooth boundary.

2Btx1—22 to 28 inches; yellowish red (5YR 4/6) gravelly coarse sandy loam; 1 percent fine faint strong brown (7.5YR 5/6) mottles; weak coarse subangular blocky structure; firm; common fine roots in cracks; 10 percent distinct clay films on surfaces along pores and 70 percent distinct clay bridging between sand grains; 20 percent rounded fine to coarse quartzite fragments; very strongly acid; clear wavy boundary.

2Btx2—28 to 44 inches; yellowish red (5YR 4/6) and red (2.5YR 4/6) gravelly sandy clay loam; 5 percent medium distinct red (2.5YR 4/8) mottles; weak coarse subangular blocky structure; firm; common fine roots in cracks; 70 percent continuous distinct clay bridging between sand grains; 20 percent rounded fine to coarse quartzite fragments; very strongly acid; gradual wavy boundary.

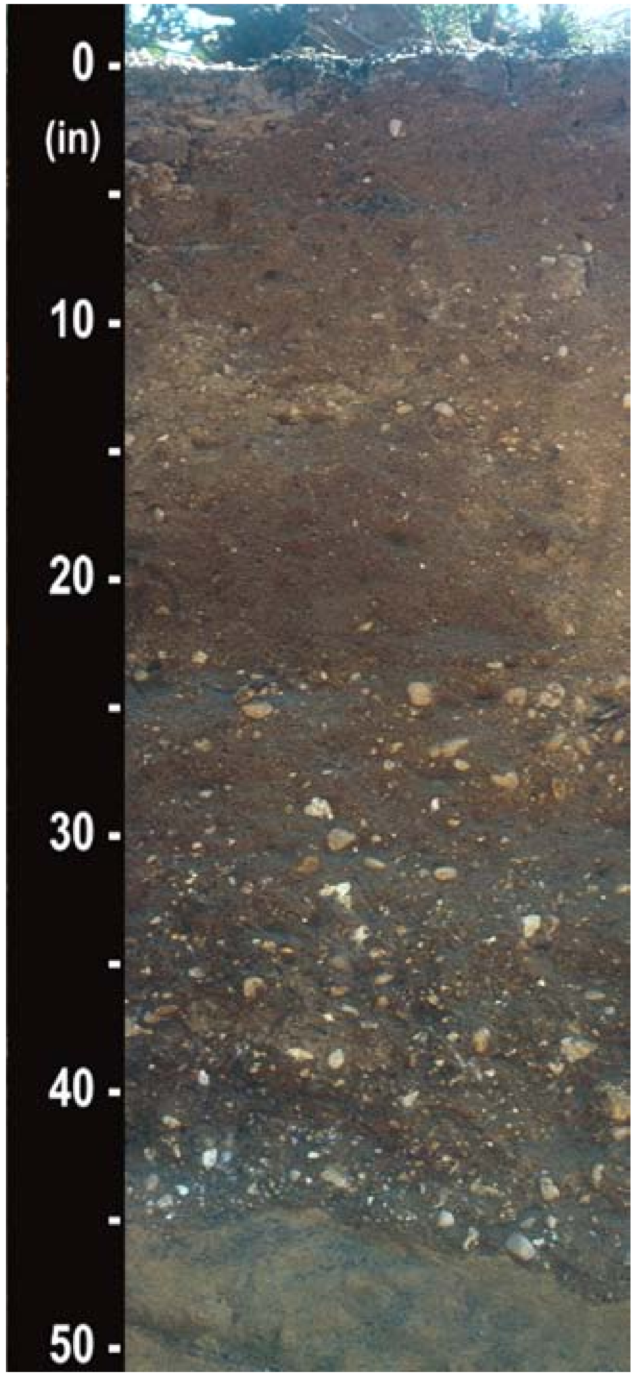

Figure 8.—A profile of an Aura soil. These well drained soils are gravelly and firm in the lower part of the subsoil and in the substratum. They formed in ancient loamy and gravelly alluvium and are on low hills and relict stream terraces.

2Btx3—44 to 59 inches; red (2.5YR 4/6) gravelly sandy clay loam; weak coarse subangular blocky structure; firm; 70 percent continuous distinct clay bridging between sand grains; 20 percent rounded fine to coarse quartzite fragments; very strongly acid; gradual wavy boundary.

2C—59 to 80 inches; yellowish red (5YR 4/8) gravelly loamy coarse sand; massive; very firm; 20 percent rounded fine to coarse quartzite fragments; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 80 inches
Depth to the fragipan: 15 to 40 inches
Depth to lithologic discontinuity (if it occurs): 15 to 40 inches to coarser textured materials
Silt content above the lithologic discontinuity: 20 to 45 percent
Silt content below the lithologic discontinuity: Less than 20 percent
Depth to a seasonal high water table: More than 72 inches
Content of rock fragments: 0 to 20 percent, by volume, in the A, E, and Bt horizons; 10 to 50 percent in the Btx horizon; and 0 to 50 percent in the C horizon; mostly rounded quartzite gravel and none to few rounded igneous and metamorphic pebbles and cobbles
Reaction: In unlimed areas, extremely acid or very strongly acid throughout
Other features: Microsequence of thin A, E, and Bh horizons (micropodzol) typical in pedons in wooded areas; total thickness of A, E, and Bh microsequence less than 6 inches; thickness of individual horizons less than 2 inches

O horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3
Type of organic soil material—slightly decomposed to highly decomposed plant material

A horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 1 to 4
Texture of the fine-earth fraction—loamy sand, coarse sandy loam, sandy loam, or loam

Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 2 to 4
Texture of the fine-earth fraction—loamy sand, coarse sandy loam, sandy loam, or loam

BE or E horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 to 6
Texture of the fine-earth fraction—loamy sand, coarse sandy loam, sandy loam, or loam

Bh horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 6
Texture of the fine-earth fraction—loamy sand, coarse sandy loam, sandy loam, or loam

BA horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 8
Texture of the fine-earth fraction—coarse sandy loam, sandy loam, or loam
Mottles—discontinuous bands, patches, or variegations in shades of brown or red

Bt horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture of the fine-earth fraction—coarse sandy loam, sandy loam, loam, or sandy clay loam
Mottles—none to few discontinuous bands, patches, or variegations in shades of brown or red

2Btx or Btx horizon:
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture of the fine-earth fraction—coarse sandy loam, sandy loam, or sandy clay loam
Mottles—few to common discontinuous bands, patches, or variegations in shades of brown or red

2BC or BC horizon (if it occurs):
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture of the fine-earth fraction—coarse sandy loam, sandy loam, loam, or sandy clay loam; commonly stratified
Mottles—few to common discontinuous bands, patches, or variegations in shades of brown or red

2C or C horizon:
Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8
Texture of the fine-earth fraction—sand, loamy sand, loamy coarse sand, coarse sandy loam, sandy loam, sandy clay loam, or stratified with these textures
Mottles—few to common discontinuous bands, patches, or variegations in shades of brown or red

Berryland Series

Drainage class: Very poorly drained
Permeability: Rapid
Landscape: North Atlantic Coastal Plain
Landform: Flats, depressions, and drainageways
Parent material: Sandy fluviomarine deposits
Slope range: 0 to 2 percent

Taxonomic class: Sandy, siliceous, mesic Typic Alaquods

Typical Pedon

Berryland sand, in an area of Berryland and Mullica soils, 0 to 2 percent slopes, occasionally flooded, in Cape May County, New Jersey; 0.6 mile east of Cedar Swamp Creek on Tuckahoe Road, 0.3 mile southeast on Butter Road to power line, 1,200 feet south along the power line, in a wooded area; USGS Marmora topographic quadrangle; lat. 39 degrees 15 minutes 10 seconds N. and long. 74 degrees 41 minutes 31 seconds W.

Ag—0 to 11 inches; very dark gray (10YR 3/1) sand; weak fine granular structure; very friable; nonsticky, nonplastic; many fine roots; 5 percent rounded fine to coarse quartzite fragments; extremely acid; clear wavy boundary.
Bh—11 to 19 inches; dark reddish brown (5YR 3/2) sand; massive; firm; nonsticky, nonplastic; common fine roots; organic stains on sand and gravel; extremely acid; clear irregular boundary.
Bg—19 to 32 inches; gray (5Y 6/1) sand; single grain; loose; nonsticky, nonplastic; few fine roots; 15 percent medium distinct irregular pale yellow (5Y 8/3) masses of accumulated iron and manganese oxide with diffuse boundaries throughout; 5 percent rounded fine to coarse quartzite fragments; very strongly acid; clear wavy boundary.
B'h—32 to 40 inches; dark reddish brown (5YR 2/2) sand; single grain; firm; nonsticky, nonplastic; few fine and medium roots; 12 percent rounded fine to coarse quartzite fragments; extremely acid; abrupt wavy boundary.
Cg1—40 to 44 inches; gray (10YR 6/1) sand; single grain; loose; nonsticky, nonplastic; very strongly acid; abrupt wavy boundary.

Cg2—44 to 80 inches; gray (10YR 6/1) stratified sand and sandy loam; single grain; loose; nonsticky, nonplastic; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 72 inches
Seasonal high water table: Within a depth of 6 inches
Depth to spodic horizon: 10 to 16 inches
Content of rock fragments: 0 to 14 percent, by volume, throughout the profile; mostly rounded quartzite gravel
Reaction: In unlimed areas, extremely acid to strongly acid throughout the profile
Other features: One or more Bh horizons below the Bg horizon in some pedons; same range in color, structure, and rupture resistance as described for the first Bh horizon; not included in series criteria

O horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 to 3
Type of organic soil material—mucky peat or muck; may include a thin surface layer of peat

A, Ag, or Ap horizon:
Color—hue of 5YR to 2.5Y, value of 2 or 3, and chroma of 1 or 2 or is neutral with value of 2 or 3
Texture—coarse sand, sand, fine sand, or loamy sand; thin surface layer with mucky or peaty texture modifiers in some pedons

Eg horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2 or is neutral with value of 5 or 6
Texture—coarse sand, sand, fine sand, or loamy sand

Bh horizon:
Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 2 to 4
Texture—loamy sand or sand
Additional feature—firm nodules that range from noncemented to strongly cemented and are hard or very hard when dry in some pedons

Bg horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 3 or is neutral with value of 4 to 6
Texture—loamy sand or sand
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Cg horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 to 3
Texture—sand or loamy sand; commonly stratified with finer textured material below a depth of 40 inches

Broadkill Series

Drainage class: Very poorly drained
Permeability: Moderate to rapid
Landscape: North Atlantic Coastal Plain
Landform: Tidal flats
Parent material: Loamy marine deposits
Slope range: 0 to 1 percent

Taxonomic class: Fine-silty, mixed, active, nonacid, mesic Typic Sulfaquents

Typical Pedon

Broadkill silt loam, in an area of Appoquinimink-Broadkill complex, 0 to 1 percent slopes, very frequently flooded, in Cumberland County, New Jersey; about 1,300 feet north of the bridge over the Maurice River at Mauricetown, 200 feet northwest of the river, in a tidal marsh; USGS Port Elizabeth topographic quadrangle; lat. 39 degrees 17 minutes 23 seconds N. and long. 74 degrees 59 minutes 18 seconds W.

Oe—0 to 6 inches; weak red (2.5YR 4/2) mucky peat; 25 percent fiber, rubbed; neutral; abrupt smooth boundary.
Ag—6 to 10 inches; very dark gray (10YR 3/1) silt loam; massive; very friable; slightly sticky, slightly plastic; many fine roots; neutral; gradual smooth boundary.
Cg1—10 to 30 inches; dark gray (5YR 4/1) silt loam; massive; friable; slightly sticky, slightly plastic; neutral; clear smooth boundary.
Cg2—30 to 45 inches; very dark gray (5YR 3/1) silty clay loam; massive; friable; moderately sticky, moderately plastic; neutral; clear smooth boundary.
2Cg—45 to 72 inches; dark gray (5Y 4/1) sandy loam; massive; friable; slightly sticky, slightly plastic; neutral.

Range in Characteristics

Depth to bedrock: More than 72 inches
Seasonal high water table: At the surface (January to December); flooded by tidal waters twice daily
Depth to underlying organic layers: More than 40 inches
Content of rock fragments: None within a depth of 40 inches; 0 to 5 percent, by volume, below 40 inches
Electrical conductivity throughout the profile: More than 16 millimhos per centimeter
Reaction: Slightly acid to slightly alkaline when wet or moist; ultra acid or extremely acid within a depth of 20 inches after moist incubation
Other features: Jarosite mottles form in many pedons upon exposure of soil material to air; n-value of 0.7 or more within a depth of 40 inches; n-value varies below 40 inches

O horizon:
Color—hue of 7.5YR to 5Y, value of 2 to 4, and chroma of 1 or 2
Type of organic soil material—mucky peat or peat; commonly, more than 60 percent live roots and stems

Ag horizon:
Color—hue of 5YR to 5BG, value of 2 to 4, and chroma of 1 or 2 or is neutral with value of 2 to 4
Texture—silt loam, silty clay loam, silty clay, or the mucky analogs of these textures
Organic matter content—2 to 12 percent

Cg horizon:
Color—hue of 5YR to 5BG, value of 2 to 7, and chroma of 1 or 2 or is neutral with value of 2 to 7
Texture above a depth of 40 inches—silt loam or silty clay loam; may contain thin lenses of organic or coarse textured soil materials
Texture below 40 inches—silty clay loam, silt loam, loam, sandy loam, loamy sand, or sand

Chicone Series

Drainage class: Very poorly drained
Permeability: Moderate to rapid
Landscape: North Atlantic Coastal Plain
Landform: Flood plains
Parent material: Silty alluvium over organic woody materials
Slope range: 0 to 1 percent

Taxonomic class: Coarse-silty, mixed, active, acid, mesic Thapto-Histic Fluvaquents

Typical Pedon

Chicone silt loam, in an area of Chicone silt loam, 0 to 1 percent slopes, frequently flooded, in Salem County, New Jersey; near Salem River, 1,264 feet northwest of the intersection of Sharptown-Auburn Road and Harding Highway, 1,552 feet south on Harding Highway, in a wooded area; USGS Woodstown topographic quadrangle; lat. 39 degrees 39 minutes 23.21 seconds N. and long. 75 degrees 22 minutes 24.03 seconds W.

A—0 to 5 inches; brown (7.5YR 4/3) silt loam; moderate fine granular structure; friable; slightly sticky, slightly plastic; many fine and medium roots; 1 percent fine prominent irregular yellowish red (5YR 4/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; 1 percent fine faint irregular brown (7.5YR 4/2) iron depletions with clear boundaries throughout; moderately acid; abrupt smooth boundary.
Cg1—5 to 20 inches; dark brown (7.5YR 3/2) silt loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common fine roots; 1 percent fine distinct irregular brown (7.5YR 4/4) masses of accumulated iron and manganese oxide with clear boundaries throughout; moderately acid; abrupt smooth boundary.
Cg2—20 to 28 inches; dark brown (7.5YR 3/2) silt loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; few fine roots; moderately acid; abrupt smooth boundary.
Oe—28 to 65 inches; black (10YR 2/1) mucky peat; massive; 20 percent fiber, rubbed; moderately acid; gradual smooth boundary.
C'g—65 to 80 inches; gray (10YR 6/1) sand; single grain; loose; strongly acid.

Range in Characteristics

Depth to bedrock: More than 80 inches
Seasonal high water table: Within a depth of 6 inches
Content of rock fragments: 0 to 1 percent, by volume, in the O horizon; 0 to 2 percent in the A and Cg horizons; and 0 to 20 percent in the C'g horizon; mostly rounded quartzite gravel
Depth to buried organic soil materials: 16 to 40 inches
Reaction: Extremely acid to strongly acid

A horizon:
Color—hue of 10YR or 7.5YR, value of 2 to 4, and chroma of 1 to 3
Texture—mucky silt loam, mucky loam, or silt loam

Cg horizon:
Color—hue of 10YR or 7.5YR, value of 2 to 5, and chroma of 1 or 2 or is neutral with value of 2 to 5

Texture—loam, silt loam, or mucky silt loam; thin layers of sandy loam or loam in some pedons

Oa or Oe horizon:
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or is neutral with value of 2 to 4
Type of organic soil material—muck or mucky peat
Content of mineral material—20 to 40 percent, by weight

C'g horizon:
Color—hue of 10YR or 2.5Y, value of 6 or 7, and chroma of 1 or 2 or is neutral with value of 4 to 8
Texture of the fine-earth fraction—sand or loamy sand; thin layers of silt loam or loam in some pedons

Chillum Series

Drainage class: Well drained
Permeability: Moderate to rapid
Landscape: North Atlantic Coastal Plain
Landform: Upland terraces and broad ridges
Parent material: Silty eolian deposits over loamy marine deposits
Slope range: 0 to 5 percent

Taxonomic class: Fine-silty, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Chillum silt loam, in an area of Chillum silt loam, 2 to 5 percent slopes, in Salem County, New Jersey; 0.63 mile southeast of the intersection of Aldine-Pole Tavern Road and Doretown-Shirley Road, and 0.43 mile northwest of the intersection of Bridgeston-Pole Tavern Road and Newkirk Station Road, in a cultivated field; USGS Elmer topographic quadrangle; lat. 39 degrees 36 minutes 19 seconds N. and long. 75 degrees 14 minutes 37 seconds W.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) silt loam; strong medium and coarse subangular blocky structure; friable; slightly sticky, slightly plastic; common fine and medium roots; slightly acid; abrupt smooth boundary.
Bt1—10 to 15 inches; strong brown (7.5YR 5/6) silt loam; moderate medium and coarse subangular blocky structure; friable; slightly sticky, slightly plastic; common fine roots; 10 percent faint clay films; slightly acid; clear smooth boundary.
Bt2—15 to 28 inches; strong brown (7.5YR 4/6) silt loam; moderate medium and coarse subangular blocky structure; friable; moderately sticky, moderately plastic; common fine roots; 10 percent faint clay films; very strongly acid; clear smooth boundary.
Bt3—28 to 34 inches; strong brown (7.5YR 5/6) silt loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common fine roots; 30 percent faint clay films; very strongly acid; clear smooth boundary.
Bt4—34 to 38 inches; strong brown (7.5YR 4/6) loam; weak medium subangular blocky structure; very friable; slightly sticky, slightly plastic; common fine roots; 10 percent faint clay films; very strongly acid; clear smooth boundary.
2C1—38 to 61 inches; strong brown (7.5YR 5/6) sandy loam; massive; firm; nonsticky, nonplastic; 10 percent rounded fine to coarse quartzite fragments; very strongly acid; clear smooth boundary.
2C2—61 to 66 inches; yellowish brown (10YR 5/6) sandy loam; massive; firm; nonsticky, nonplastic; 1 percent medium prominent irregular light gray (10YR 7/2)

iron depletions with diffuse boundaries throughout; 10 percent rounded fine to coarse quartzite fragments; strongly acid; clear smooth boundary.
3C3—66 to 72 inches; yellowish red (5YR 5/8) sand; single grain; loose; nonsticky, nonplastic; 5 percent rounded fine to coarse quartzite fragments; strongly acid.

Range in Characteristics

Thickness of the solum: 20 to 40 inches
Depth to bedrock: More than 72 inches
Depth to a seasonal high water table: More than 72 inches
Depth to lithologic discontinuity (if it occurs): 15 to 40 inches to coarser textured materials
Content of rock fragments: 0 to 60 percent, by volume, in the A and E horizons; 0 to 1 percent in the B horizon; and 10 to 80 percent in the 2C horizons; mostly quartz pebbles
Reaction: In unlimed areas, extremely acid to strongly acid throughout the profile

A or Ap horizon (if it occurs):
Color—hue of 10YR, value of 3 or 4, and chroma of 1 to 3
Texture of the fine-earth fraction—silt loam or loam

E horizon (if it occurs):
Color—hue of 10YR, value of 4 to 6, and chroma of 3 to 5
Texture of the fine-earth fraction—silt loam or loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6
Texture—silt loam or silty clay loam

C horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 6
Texture of the fine-earth fraction—sand, sandy loam, or loam

Downer Series

Drainage class: Well drained
Permeability: Moderately rapid and rapid
Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills
Parent material: Loamy or gravelly fluviomarine deposits, or both
Slope range: 0 to 10 percent

Taxonomic class: Coarse-loamy, siliceous, semiactive, mesic Typic Hapludults

Typical Pedon

Downer loamy sand, in an area of Downer loamy sand, 0 to 5 percent slopes, in Cumberland County, New Jersey; 1,650 feet west of the intersection of Trench Road (County Road 699) and Cubby Hollow Road, 660 feet north of Trench Road, in a cultivated field; USGS Port Elizabeth topographic quadrangle; lat. 39 degrees 22 minutes 30 seconds N. and long. 74 degrees 58 minutes 35 seconds W.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; nonsticky, nonplastic; many fine roots; slightly acid; abrupt smooth boundary.
BA—10 to 16 inches; yellowish brown (10YR 5/6) loamy sand; weak medium subangular blocky structure; very friable; nonsticky, nonplastic; common fine roots; slightly acid; clear wavy boundary.

Bt—16 to 36 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; nonsticky, nonplastic; common fine roots; clay bridging between sand grains; 5 percent rounded fine to coarse quartzite fragments; moderately acid; clear wavy boundary.

C1—36 to 48 inches; yellowish brown (10YR 5/6) loamy sand; single grain; loose; nonsticky, nonplastic; common fine roots; 10 percent rounded fine to coarse quartzite fragments; very strongly acid; clear smooth boundary.

C2—48 to 72 inches; 90 percent light yellowish brown (10YR 6/4) sand and 10 percent strong brown (7.5YR 5/6) sandy loam lenses; single grain; loose; nonsticky, nonplastic; 10 percent rounded fine to coarse quartzite fragments; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 72 inches

Depth to a seasonal high water table: More than 72 inches

Content of rock fragments: 0 to 25 percent, by volume, throughout the profile; mostly fine and medium quartzite pebbles, ironstone, or less commonly chert pebbles

Reaction: In unlimed areas, extremely acid to strongly acid throughout the profile

Other features: Microsequence of A, E, and Bh horizons (micropodzol) typical in undisturbed pedons; total thickness of A, E, and Bh microsequence less than 6 inches; individual horizons less than 2 inches thick

O horizon (if it occurs):

Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 1 or 2

Type of organic soil material—moderately decomposed or highly decomposed plant material

Ap or A horizon:

Color—hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 2 to 4

Texture of the fine-earth fraction—loamy sand or sandy loam

E horizon (if it occurs):

Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 1 to 6

Texture of the fine-earth fraction—sand, loamy sand, or sandy loam

Thickness of horizon—less than 6 inches

Bh horizon (if it occurs):

Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 4 to 6

Texture of the fine-earth fraction—sandy loam or loamy sand

BA or BE horizon:

Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 to 6

Texture of the fine-earth fraction—sand, loamy sand, loamy coarse sand, or sandy loam

Bt horizon:

Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8

Texture of the fine-earth fraction—sandy loam; thin subhorizons of sandy clay loam, loam, or loamy sand in some pedons

BC horizon (if it occurs):

Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8

Texture of the fine-earth fraction—sand, loamy sand, or sandy loam; thin subhorizons with coarser textures in some pedons

C horizon:

Color—hue of 7.5YR to 2.5Y, value of 5 to 7, and chroma of 4 to 8; thin bands or variegations in shades of these colors in some pedons

Texture of the fine-earth fraction within a depth of 40 inches—sand or loamy sand; thin sandy loam strata or nodules in some pedons
Texture of the fine-earth fraction below 40 inches—sand, loamy sand, sandy loam, loam, or sandy clay loam

Evesboro Series

Drainage class: Excessively drained
Permeability: Rapid
Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills
Parent material: Sandy eolian deposits or sandy fluviomarine deposits, or both (fig. 9)
Slope range: 0 to 10 percent

Taxonomic class: Mesic, coated Typic Quartzipsamments

Typical Pedon

Evesboro sand, in an area of Evesboro sand, 0 to 5 percent slopes, in Cumberland County, New Jersey; 1.1 miles west of State Route 55 on Sherman Avenue to mile marker post 8, about 100 feet south of Sherman Avenue, in Union Lake Wildlife Management Area, in a cultivated field; USGS Millville topographic quadrangle; lat. 39 degrees 26 minutes 45 seconds N. and long. 75 degrees 05 minutes 04 seconds W.

A—0 to 4 inches; grayish brown (10YR 5/2) sand; single grain; loose; nonsticky, nonplastic; common fine roots; extremely acid; clear smooth boundary.
AB—4 to 17 inches; brown (10YR 5/3) sand; single grain; loose; nonsticky, nonplastic; common fine roots; very strongly acid; gradual smooth boundary.
Bw—17 to 31 inches; yellowish brown (10YR 5/4) sand; massive;

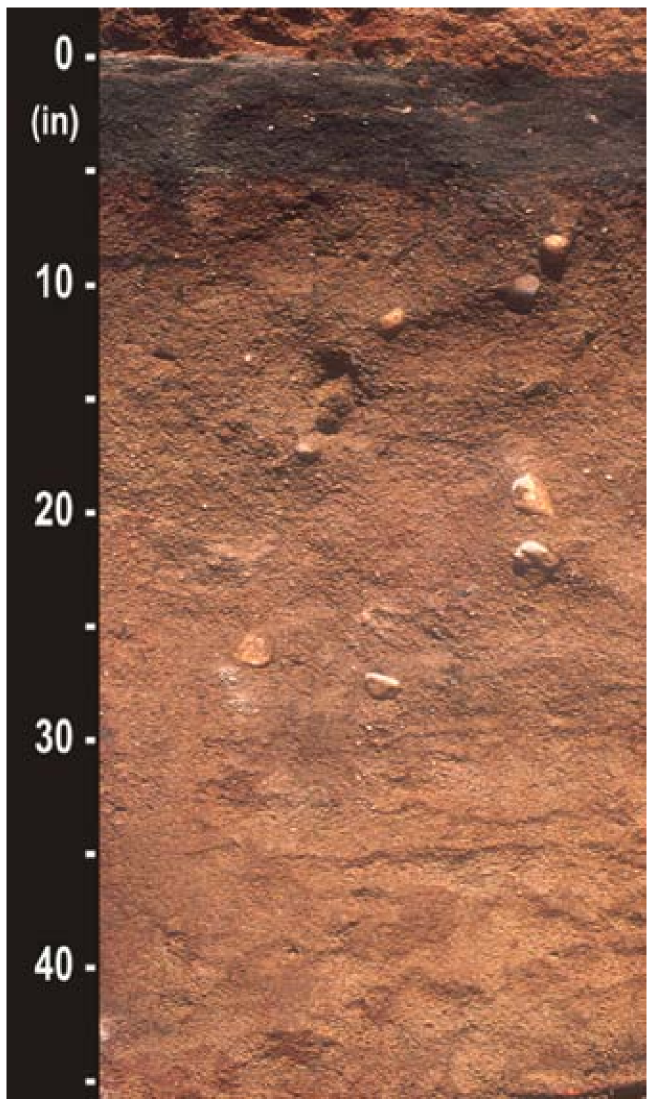

Figure 9.—A profile of an Evesboro soil. The excessively drained Evesboro soils are on summits and side slopes.

very friable; nonsticky, nonplastic; common fine and medium roots; strongly acid; gradual smooth boundary.

C—31 to 80 inches; stratified loamy sand and sand, 50 percent light yellowish brown (10YR 6/4) and 50 percent yellowish brown (10YR 5/4); single grain; loose; nonsticky, nonplastic; common very fine roots; 3 percent rounded fine to coarse quartzite fragments; strongly acid.

Range in Characteristics

Thickness of the solum: 10 to 48 inches
Depth to bedrock: More than 80 inches
Depth to a seasonal high water table: More than 72 inches
Content of rock fragments: 0 to 25 percent, by volume, throughout the profile; mostly rounded quartzose pebbles; layers with more than 15 percent gravel generally less than 1 foot thick
Reaction: In unlimed areas, extremely acid or very strongly acid throughout the profile

O horizon (if it occurs):
Type of organic soil material—slightly decomposed or moderately decomposed plant material

A or Ap horizon:
Color—hue of 10YR, value of 3 to 6, and chroma of 1 to 4
Texture of the fine-earth fraction—sand

AB, BA, or E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 2 to 6
Texture of the fine-earth fraction—sand

Bw horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture of the fine-earth fraction—sand or loamy sand

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 to 6
Texture of the fine-earth fraction—stratified loamy sand to sand, sand, or loamy sand; sandy loam at a depth of more than 40 inches in some pedons

Fallsington Series

Drainage class: Poorly drained
Permeability: Moderate to rapid
Landscape: North Atlantic Coastal Plain
Landform: Flats and depressions
Parent material: Loamy fluviomarine deposits
Slope range: 0 to 2 percent

Taxonomic class: Fine-loamy, mixed, active, mesic Typic Endoaquults

Typical Pedon

Fallsington mucky peat, in an area of Othello and Fallsington soils, 0 to 2 percent slopes, in Cumberland County, New Jersey; 0.4 mile southwest of Center Grove on Cedarville Road, 30 feet north of the road, in a wooded area; USGS Cedarville topographic quadrangle; lat. 39 degrees 16 minutes 40 seconds N. and long. 75 degrees 10 minutes 56 seconds W.

Oe—0 to 2 inches; dark reddish brown (5YR 2.5/2) mucky peat; moderate medium granular structure; very friable; many fine roots; extremely acid; abrupt smooth boundary.

A—2 to 5 inches; very dark brown (10YR 2/2) loam; moderate fine and medium granular structure; friable; nonsticky, nonplastic; many fine roots; 3 percent rounded fine to coarse quartzite fragments; extremely acid; clear smooth boundary.

E—5 to 8 inches; brown (10YR 5/3) sandy loam; moderate fine and medium subangular blocky structure; friable; nonsticky, nonplastic; many fine and medium roots; 5 percent rounded fine to coarse quartzite fragments; extremely acid; clear smooth boundary.

Btg1—8 to 14 inches; grayish brown (2.5Y 5/2) sandy loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common fine roots; 5 percent rounded fine to coarse quartzite fragments; very strongly acid; clear wavy boundary.

Btg2—14 to 31 inches; light brownish gray (2.5Y 6/2) sandy clay loam; moderate medium subangular blocky structure; firm; moderately sticky, moderately plastic; 15 percent medium prominent irregular yellowish brown (10YR 5/8) masses of accumulated iron and manganese oxide with clear boundaries throughout; 10 percent rounded fine to coarse quartzite fragments; very strongly acid; abrupt smooth boundary.

Cg1—31 to 62 inches; light brownish gray (10YR 6/2) sand; single grain; loose; nonsticky, nonplastic; 5 percent rounded fine to coarse quartzite fragments; very strongly acid; abrupt smooth boundary.

Cg2—62 to 80 inches; light brownish gray (10YR 6/2) gravelly sand; single grain; loose; nonsticky, nonplastic; 20 percent rounded fine to coarse quartzite fragments; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 80 inches

Seasonal high water table: Within a depth of 12 inches (December to May)

Content of rock fragments: 0 to 10 percent, by volume, throughout the profile; mostly rounded or subrounded gravel

Reaction: In unlimed areas, extremely acid to strongly acid throughout the profile

O horizon:

Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3

Type of organic soil material—peat ranging to muck

A or Ap horizon:

Color—hue of 10YR to 5Y, value of 2 to 6, and chroma of 1 to 3

Texture—sandy loam, fine sandy loam, very fine sandy loam, or loam

Eg or E horizon:

Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2 or is neutral with value of 4 to 8

Texture—sandy loam, fine sandy loam, very fine sandy loam, or loam

Btg or BCtg horizon:

Color—hue of 10YR to 5Y, value of 3 to 7, and chroma of 1 or 2 or is neutral with value of 4 to 8; value of 3 or 4 limited to a depth of more than 30 inches

Texture—sandy clay loam, loam, or sandy loam

Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

BCg horizon (if it occurs):

Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2 or is neutral with value of 4 to 8

Texture—loamy sand, sandy loam, or sandy clay loam; stratified with layers of very fine sandy loam or fine sandy loam in some pedons; buried horizons in the lower part of the substratum in some pedons
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

C horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 3 or 4
Texture—sand, loamy sand, sandy loam, or sandy clay loam; stratified with layers of very fine sandy loam or fine sandy loam in some pedons; buried horizons in the lower part of the substratum in some pedons
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Cg horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2 or is neutral with value of 4 to 8
Texture—sand, loamy sand, sandy loam, or sandy clay loam; stratified with layers of very fine sandy loam or fine sandy loam in some pedons; buried horizons in the lower part of the substratum in some pedons
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Fluvaquents

Drainage class: Somewhat poorly drained
Permeability: Moderate and moderately rapid
Landscape: North Atlantic Coastal Plain
Landform: Flood plains
Parent material: Loamy alluvium
Slope range: 0 to 3 percent

Taxonomic class: Fluvaquents

Typical Pedon

Fluvaquents, in an area of Fluvaquents, loamy, 0 to 3 percent slopes, frequently flooded, in Gloucester County, New Jersey; about 2.7 miles southwest on Swedesboro Road from the intersection of Swedesboro Road and Democrat Road, 2.0 miles southeast of the intersection of Swedesboro Road and Tomlin Road on Tomlin Road, 1,500 feet southwest along a railroad track, 100 feet south of the railroad track, in a wooded area; USGS Bridgeport topographic quadrangle; lat. 39 degrees 46 minutes 33 seconds N. and long. 75 degrees 16 minutes 36 seconds W.

A—0 to 5 inches; very dark grayish brown (10YR 3/2) loam; moderate fine granular structure; friable; 1 percent fine prominent red (2.5YR 4/6) masses of accumulated iron and manganese oxide; strongly acid; clear smooth boundary.
AB—5 to 12 inches; dark gray (10YR 4/1) silt loam; moderate fine granular structure; friable; 30 percent fine prominent red (2.5YR 4/6) masses of accumulated iron and manganese oxide; strongly acid; clear smooth boundary.
Bw1—12 to 18 inches; grayish brown (2.5Y 5/2) sandy clay loam; massive; friable; 30 percent medium prominent yellowish red (5YR 4/6) masses of accumulated iron and manganese oxide; strongly acid; clear wavy boundary.

Bw2—18 to 24 inches; dark yellowish brown (10YR 4/6) sandy clay loam; massive; friable; 30 percent medium faint strong brown (7.5YR 4/6) masses of accumulated iron and manganese oxide; 15 percent medium prominent light brownish gray (2.5Y 6/2) iron depletions; strongly acid; gradual wavy boundary.

C—24 to 50 inches; light brownish gray (2.5Y 6/2) sandy loam; massive; friable; 30 percent medium prominent strong brown (7.5YR 4/6) masses of accumulated iron and manganese oxide; strongly acid.

Range in Characteristics

Thickness of the solum: 6 to 30 inches or more
Depth to bedrock: More than 50 inches
Depth to the seasonal high water table: 6 to 18 inches (September to May)
Reaction: Very strongly acid to moderately acid

A horizon:
Color—hue of 7.5YR to 2.5Y, value of 2 to 4, and chroma of 1 to 6
Texture—varies
Redoximorphic features—masses of accumulated iron and manganese oxide in shades of dark red
Structure—weak to moderate fine granular

AB horizon:
Color—hue of 7.5YR to 2.5Y, value of 2 to 4, and chroma of 1 to 6
Texture—varies
Redoximorphic features—iron depletions in shades of light brownish gray and masses of accumulated iron and manganese oxide in shades of strong brown to yellowish red
Structure—massive

Bw horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 3 to 6
Texture—varies
Redoximorphic features—iron depletions in shades of light brownish gray and masses of accumulated iron and manganese oxide in shades of strong brown to yellowish red
Structure—massive

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 2 to 6
Texture—varies
Redoximorphic features—masses of accumulated iron and manganese oxide in shades of dark brown
Structure—massive

Fort Mott Series

Drainage class: Well drained
Permeability: Moderately rapid and rapid
Landscape: North Atlantic Coastal Plain
Landform: Terraces and ridges
Parent material: Sandy eolian deposits or fluviomarine deposits, or both (fig. 10)
Slope range: 0 to 5 percent

Taxonomic class: Loamy, siliceous, semiactive, mesic Arenic Hapludults

Typical Pedon

Fort Mott loamy sand, in an area of Fort Mott loamy sand, 0 to 5 percent slopes, in Salem County, New Jersey; 1 mile north of the intersection of Lehigh Road and Fort Mott Road, in a cultivated field; USGS Wilmington South topographic quadrangle; lat. 39 degrees 37 minutes 34 seconds N. and long. 75 degrees 31 minutes 56 seconds W.

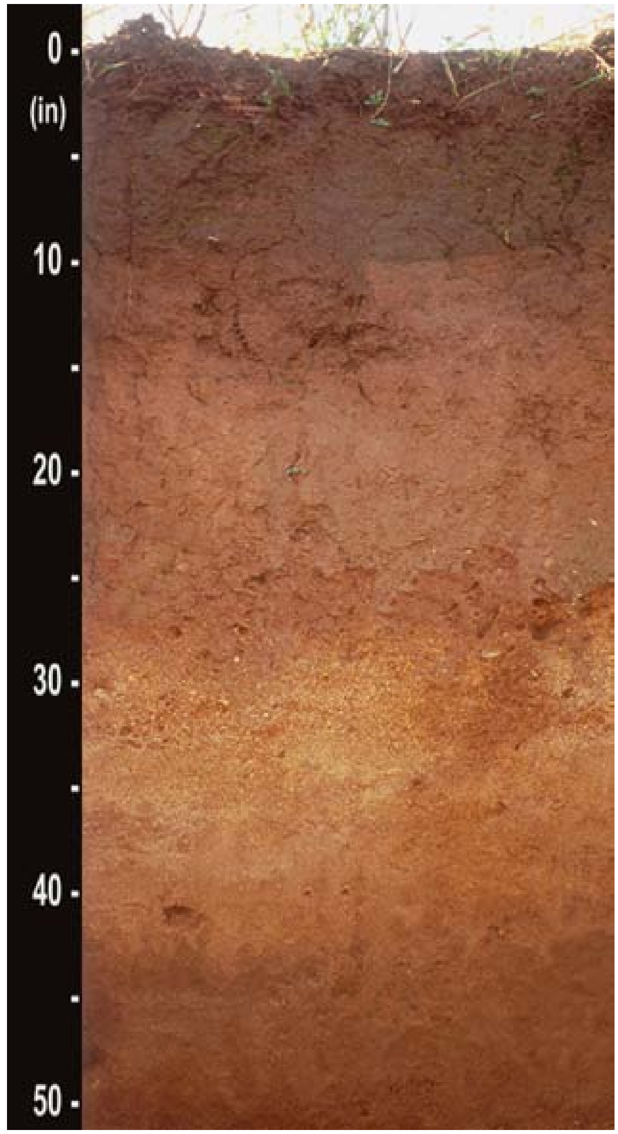

Figure 10.—A profile of a Fort Mott soil. These well drained soils are on low hills and broad ridges.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) loamy sand; single grain; loose; nonsticky, nonplastic; common fine roots; strongly acid; abrupt smooth boundary.

E—8 to 30 inches; pale brown (10YR 6/3) loamy sand; single grain; loose; nonsticky, nonplastic; common fine roots; strongly acid; clear wavy boundary.

BE—30 to 33 inches; yellowish brown (10YR 5/6) sandy loam; weak medium granular structure; very friable; nonsticky, nonplastic; very strongly acid; clear wavy boundary.

Bt—33 to 49 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; nonsticky, nonplastic; 15 percent clay bridging between sand grains and 15 percent faint clay films on faces of peds; very strongly acid; clear wavy boundary.

C—49 to 72 inches; strong brown (7.5YR 5/6) loamy sand; massive; loose; nonsticky, nonplastic; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 72 inches
Depth to a seasonal high water table: More than 72 inches
Content of rock fragments: 0 to 10 percent, by volume, in the A, E, and B horizons and 0 to 30 percent in the C horizon; mostly fine quartzite gravel; layers containing 15 percent or more gravel generally less than 12 inches thick
Reaction: In unlimed areas, extremely acid to strongly acid throughout the profile
Thickness of the sandy surface layer: 20 to 40 inches

Other features: Microsequence of A, E, and Bh horizons (micropodzol) typical in pedons in wooded areas; total thickness of the A, E, and Bh horizons less than 6 inches; individual horizons less than 2 inches thick; weighted average of clay in the particle-size control section from 12 to 25 percent, typically 15 to 20 percent

O horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3
Type of organic soil material—highly decomposed to slightly decomposed plant material

A horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 3 or 4, and chroma of 1 to 3
Texture—fine sand, sand, or loamy sand

Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 2 to 4
Texture—fine sand, sand, or loamy sand

E or E' horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 1 to 6
Texture—loamy fine sand, sand, or loamy sand

BE horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—loamy sand, sandy loam, or fine sandy loam

Bh horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 3 to 6
Texture—loamy sand or sandy loam

Bt horizon:
Color—hue of 5YR to 10YR, value of 4 to 7, and chroma of 3 to 8
Texture—fine sandy loam, sandy loam, loam, coarse sandy loam, or sandy clay loam

BC horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 8
Texture—loamy sand or sandy loam; thin subhorizons of sand in some pedons

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture of the fine-earth fraction—stratified sand, fine sand, loamy coarse sand, or loamy sand including thin layers of sandy loam or fine sandy loam

Galestown Series

Drainage class: Somewhat excessively drained
Permeability: Rapid
Landscape: North Atlantic Coastal Plain
Landform: Broad ridges and upland terraces
Parent material: Sandy marine deposits
Slope range: 0 to 5 percent

Taxonomic class: Siliceous, mesic Psammentic Hapludults

Typical Pedon

Galestown sand, in an area of Galestown sand, 0 to 5 percent slopes, in Salem County, New Jersey; 1.6 miles southeast of the intersection of Tattletown Jericho Road and Route 49, about 0.3 mile southwest of Route 49, in a wooded area;

USGS Salem topographic quadrangle; lat. 39 degrees 32 minutes 04 seconds N. and long. 75 degrees 22 minutes 57 seconds W.

Oi—0 to 2 inches; dark reddish brown (5YR 3/2) undecomposed organic material; abrupt smooth boundary.

E—2 to 4 inches; pale brown (10YR 6/3) sand; single grain; loose; nonsticky, nonplastic; many fine and medium roots; strongly acid; clear smooth boundary.

Bt1—4 to 18 inches; reddish yellow (7.5YR 6/6) loamy sand; single grain; loose; nonsticky, nonplastic; many very fine and fine roots; 10 percent faint clay films; strongly acid; clear smooth boundary.

Bt2—18 to 48 inches; reddish yellow (7.5YR 6/6) stratified loamy sand and sandy loam; weak medium subangular blocky structure; friable; nonsticky, nonplastic; common very fine and fine roots; 35 percent clay films and 35 percent clay bridging between sand grains; very strongly acid; clear smooth boundary.

C—48 to 72 inches; pale brown (10YR 6/3) sand; single grain; loose; nonsticky, nonplastic; very strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 60 inches
Depth to bedrock: More than 72 inches
Depth to a seasonal high water table: More than 72 inches
Content of rock fragments: 0 to 20 percent in the A and B horizons and 0 to 30 percent in the C horizon; mostly quartz pebbles
Content of stones: 0 to 5 percent, by volume, in the A horizon
Reaction: In unlimed areas, extremely acid to strongly acid throughout the profile

O horizon:
Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3
Type of organic soil material—highly decomposed to slightly decomposed plant material

Ap horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 3 to 5, and chroma of 2 to 4
Texture of the fine-earth fraction—loamy sand or sand

A horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 2 to 4, and chroma of 1 or 2
Texture of the fine-earth fraction—loamy sand or sand
Note—Horizon generally less than 4 inches thick

E horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 1 to 6
Texture of the fine-earth fraction—loamy sand or sand

Bt horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture of the fine-earth fraction—loamy sand or sand

BC horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 8, and chroma of 4 to 8
Texture of the fine-earth fraction—loamy sand or sand

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture of the fine-earth fraction—sand or loamy sand; texture varies below a depth of 65 inches; thin strata of finer textured material in some pedons

Galloway Series

Drainage class: Somewhat poorly drained
Permeability: Rapid
Landscape: North Atlantic Coastal Plain
Landform: Flats, terraces, and depressions
Parent material: Unconsolidated sandy marine deposits
Slope range: 0 to 5 percent

Taxonomic class: Mesic, coated Aquic Quartzipsamments

Typical Pedon

Galloway loamy sand, in an area of Galloway loamy sand, 0 to 5 percent slopes, in Cumberland County, New Jersey; 0.1 mile south of the intersection of Ackley Road and Buckshutem Road on Buckshutem Road, 50 feet east of road, in the Edward G. Bevan Wildlife Management Area, in a cultivated field; USGS Dividing Creek topographic quadrangle; lat. 39 degrees 18 minutes 48 seconds N. and long. 75 degrees 00 minutes 34 seconds W.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) loamy sand; single grain; loose; nonsticky, nonplastic; many fine roots; slightly acid; abrupt smooth boundary.

Bw—9 to 28 inches; light yellowish brown (10YR 6/4) loamy sand; single grain; loose; nonsticky, nonplastic; 70 percent silt coatings on sand and gravel; 1 percent fine distinct irregular brownish yellow (10YR 6/6) masses of accumulated iron and manganese oxide with diffuse boundaries throughout; moderately acid; clear smooth boundary.

Cg1—28 to 58 inches; pale yellow (2.5Y 8/2) gravelly sand; single grain; loose; nonsticky, nonplastic; 15 percent medium prominent irregular light yellowish brown (10YR 6/4) masses of accumulated iron and manganese oxide with clear boundaries throughout; 20 percent rounded fine to medium quartzite fragments; very strongly acid; abrupt smooth boundary.

Cg2—58 to 72 inches; white (2.5Y 8/1) sand; single grain; loose; nonsticky, nonplastic; 5 percent rounded fine to coarse quartzite fragments; very strongly acid.

Range in Characteristics

Thickness of the solum: 35 to 44 inches
Depth to bedrock: More than 72 inches
Depth to the seasonal high water table: 24 to 48 inches (December to April)
Reaction: In unlimed areas, extremely acid to strongly acid throughout the profile
Content of rock fragments: 0 to 5 percent, by volume, in the O, A, E, and B horizons and 0 to 35 percent in the C horizon; mostly fine rounded quartzite gravel
Other features: Thin microsequence of A, E, and Bh horizons in some pedons; total thickness of the A, E, and Bh horizons less than 5 inches; individual horizons less than 2 inches thick

O horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3
Type of organic soil material—highly decomposed to slightly decomposed plant material

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 to 4
Texture—loamy sand or sand

E horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 to 3
Texture—loamy sand or sand

Bh horizon (if it occurs):
Color—hue of 5YR or 7.5YR, value of 4 to 6, and chroma of 4 to 6
Texture—loamy sand

Bw horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 7, and chroma of 3 to 6
Texture—loamy sand in the upper part of the horizon and loamy sand or sand in the lower part
Redoximorphic features—iron depletions in shades of gray between depths of 24 and 40 inches and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Cg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2 or is neutral in hue and has value of 5 to 7
Redoximorphic features—iron depletions in shades of gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive
Texture of the fine-earth fraction—loamy sand or sand

Hammonton Series

Drainage class: Moderately well drained
Permeability: Moderately rapid and rapid
Landscape: North Atlantic Coastal Plain
Landform: Depressions and flats
Parent material: Coarse-loamy fluviomarine deposits
Slope range: 0 to 5 percent

Taxonomic class: Coarse-loamy, siliceous, semiactive, mesic Aquic Hapludults

Typical Pedon

Hammonton sandy loam, in an area of Hammonton sandy loam, 0 to 2 percent slopes, in Salem County, New Jersey; 0.8 mile southeast of the intersection of Route 130 and Perkintown Road, 200 feet southwest of Perkintown Road, in a cultivated field; USGS Marcus Hook topographic quadrangle; lat. 39 degrees 45 minutes 28 seconds N. and long. 75 degrees 26 minutes 10 seconds W.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) sandy loam; moderate medium granular structure; friable; nonsticky, nonplastic; many fine roots; moderately acid; abrupt smooth boundary.

Bt1—10 to 16 inches; brownish yellow (10YR 6/6) sandy loam; moderate medium and coarse subangular blocky structure; friable; nonsticky, nonplastic; common fine roots; patchy faint clay films and patchy faint clay bridging between sand grains; moderately acid; clear smooth boundary.

Bt2—16 to 25 inches; yellowish brown (10YR 5/6) sandy loam; moderate medium subangular blocky structure; friable; nonsticky, nonplastic; common fine roots; patchy faint clay films and patchy faint clay bridging between sand grains; very strongly acid; clear smooth boundary.

Bt3—25 to 34 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; nonsticky, nonplastic; clay bridging between sand grains; 10 percent medium prominent irregular light brownish gray (10YR

6/2) iron depletions with clear boundaries throughout; very strongly acid; clear wavy boundary.

C—34 to 58 inches; yellowish brown (10YR 5/4) sand; single grain; loose; nonsticky, nonplastic; 15 percent medium distinct irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries throughout; very strongly acid; clear smooth boundary.

Cg—58 to 72 inches; light brownish gray (10YR 6/2) sand; loose; nonsticky, nonplastic; 1 percent medium faint irregular white (10YR 8/1) iron depletions with clear boundaries throughout; 1 percent medium prominent irregular yellowish brown (10YR 5/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 72 inches
Depth to the seasonal high water table: 18 to 42 inches (December to May)
Content of rock fragments: 0 to 20 percent, by volume, in the A and B horizons and 0 to 40 percent in the C horizon; mostly quartzite pebbles
Reaction: In unlimed areas, extremely acid to strongly acid throughout the profile
Other features: Microsequence of A, E, and Bh horizons (micropodzol) typical in wooded areas; total thickness of microsequence less than 6 inches; individual horizons less than 2 inches thick

O horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 4
Type of organic soil material—highly decomposed to slightly decomposed plant material

A horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 3 or 4, and chroma of 1 to 4 or is neutral with value of 3 to 6
Texture of the fine-earth fraction—loamy sand or sandy loam
Note—horizon 2 to 6 inches thick

Ap horizon:
Color—hue of 10YR to 5Y, value of 3 to 6, and chroma of 2 to 4 or is neutral with value of 3 to 6
Texture of the fine-earth fraction—loamy sand or sandy loam

BE or E horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 2 to 8
Texture of the fine-earth fraction—loamy sand or sandy loam

Bh horizon (if it occurs):
Color—hue of 5YR to 10YR, value of 4 to 6, and chroma of 3 to 6
Texture of the fine-earth fraction—loamy sand or sandy loam

Bt horizon:
Color—hue of 7.5YR to 5Y, value of 4 to 7, and chroma of 3 to 8
Texture of the fine-earth fraction—commonly sandy loam; thin subhorizons of sandy clay loam or loamy sand in some pedons
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Btg horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 4 to 7, and chroma of 1 or 2 or is neutral with value of 4 to 7

Texture of the fine-earth fraction—dominantly sandy loam; thin subhorizons of sandy clay loam or loamy sand in some pedons
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

BC horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 4 to 8, and chroma of 3 to 8
Texture of the fine-earth fraction—loamy sand or sandy loam; thin subhorizons of sandy clay loam in some pedons

BCg horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 4 to 8, and chroma of 1 or 2 or is neutral with value of 4 to 8
Texture of the fine-earth fraction—loamy sand or sandy loam; thin subhorizons of sandy clay loam in some pedons

C horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 3 to 8
Texture of the fine-earth fraction above a depth of 40 inches—loamy sand or sand; thin strata of sandy clay loam in some pedons
Texture of the fine-earth fraction below a depth of 40 inches—sand, coarse sand, loamy coarse sand, loamy sand, sandy loam, loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Cg horizon:
Color—hue of 7.5YR to 5Y, value of 5 to 8, and chroma of 1 or 2 or is neutral with value of 4 to 8
Texture of the fine-earth fraction above a depth of 40 inches—commonly loamy sand or sand; thin strata of sandy clay loam in some pedons
Texture of the fine-earth fraction below a depth of 40 inches—commonly sand, loamy sand, sandy loam, loam, or sandy clay loam; thin strata of sandy clay in some pedons
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Keyport Series

Drainage class: Moderately well drained (fig. 11)
Permeability: Very slow
Landscape: North Atlantic Coastal Plain
Landform: Flats, depressions, and knolls
Parent material: Clayey marine deposits
Slope range: 5 to 10 percent

Taxonomic class: Fine, mixed, semiactive, mesic Aquic Hapludults

Typical Pedon

Keyport loam, in an area of Keyport loam, 5 to 10 percent slopes, in Salem County, New Jersey; about 0.5 mile southeast of the intersection of Woodstown Road and Harrisonville Ferrel Road and 1 mile southwest of the intersection of Harrisonville Ferrel Road and Lincoln Mill Road, in a cultivated field; USGS Woodstown topographic quadrangle; lat. 39 degrees 40 minutes 47.43 seconds N. and long. 75 degrees 15 minutes 36.01 seconds W.

Ap—0 to 10 inches; brown (10YR 4/3) loam; moderate medium granular structure; very friable; slightly sticky, slightly plastic; many fine and medium roots; 4 percent rounded fine to coarse quartzite fragments; strongly acid; abrupt smooth boundary.

BA—10 to 16 inches; dark yellowish brown (10YR 4/4) loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common fine and medium roots; 30 percent faint clay films on faces of peds; 4 percent rounded fine to coarse quartzite fragments; slightly acid; gradual smooth boundary.

Bt—16 to 24 inches; yellowish brown (10YR 5/6) clay loam; moderate medium subangular blocky structure; friable; moderately sticky, moderately plastic; common fine and medium roots; 45 percent faint clay films on faces of peds; 4 percent rounded fine to coarse quartzite fragments; strongly acid; gradual smooth boundary.

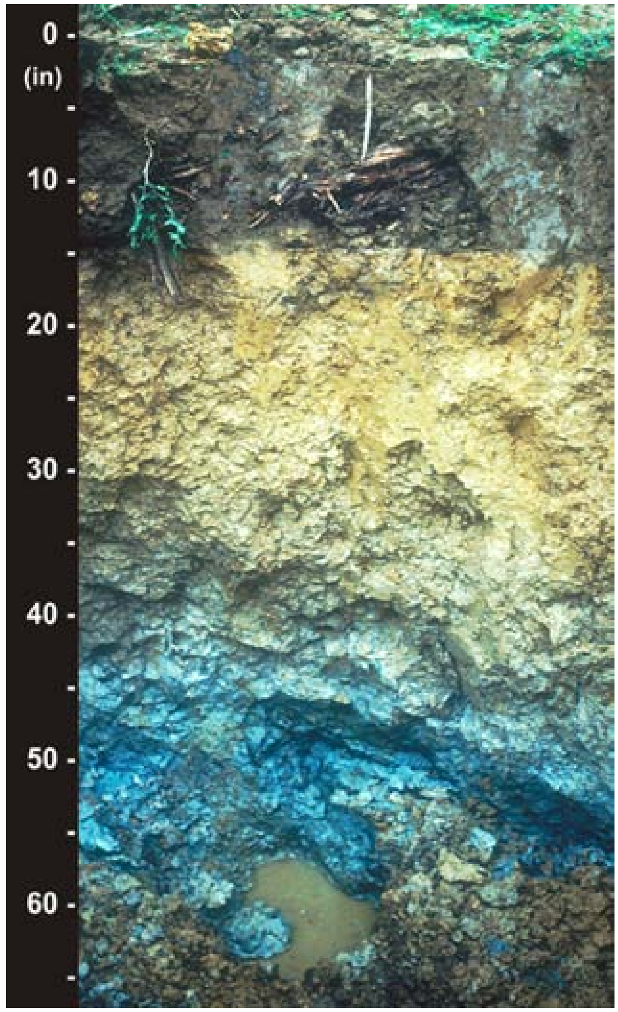

Figure 11.—A profile of a Keyport soil. These moderately well drained soils occur in old, moderately fine textured, acid, fluviomarine sediments on broad lowlands and in slight depressions.

BCg—24 to 38 inches; light brownish gray (10YR 6/2) clay loam; moderate medium subangular blocky structure parting to massive; friable; moderately sticky, moderately plastic; 25 percent coarse prominent strong brown (7.5YR 5/6) masses of accumulated iron and manganese oxide; 4 percent rounded fine to coarse quartzite fragments; strongly acid; gradual smooth boundary.

Cg—38 to 60 inches; light gray (10YR 7/1) clay loam; massive; friable; moderately sticky, moderately plastic; 25 percent coarse distinct light yellowish brown (10YR 6/4) masses of accumulated iron and manganese oxide; 20 percent fine prominent strong brown (7.5YR 5/6) masses of accumulated iron and manganese oxide; 4 percent rounded fine to coarse quartzite fragments; strongly acid.

Range in Characteristics

Depth to bedrock: More than 60 inches
Depth to a seasonal high water table: 18 to 42 inches
Content of rock fragments: 0 to 5 percent throughout; mostly rounded quartzite
Reaction: In unlimed areas, extremely acid to neutral throughout the profile

O horizon (if it occurs):
Type of organic soil material—slightly decomposed or moderately decomposed plant material

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 4
Texture—sandy loam, loam, or sandy clay loam

Bt horizon:
Color—hue of 5YR to 2.5Y, value of 4 to 7, and chroma of 1 to 8 or is neutral with value of 4 to 7
Texture—clay, silty clay, clay loam, or silty clay loam
Redoximorphic features (if they occur)—masses of accumulated iron and manganese oxide in shades of red, yellow, or brown and iron depletions in shades of gray

BCg horizon:
Color—hue of 10YR to 5Y, value of 2 to 7, and chroma of 1 to 8 or is neutral with value of 2 to 7
Texture—clay, silty clay, clay loam, or silty clay loam
Redoximorphic features (if they occur)—masses of accumulated iron and manganese oxide in shades of red, yellow, or brown and iron depletions in shades of gray

Cg horizon:
Color—hue of 10YR to 5Y, value of 2 to 7, and chroma of 1 to 8 or is neutral with value of 2 to 7
Texture—silty clay loam, clay loam, or stratified silty clay loam to loamy sand
Redoximorphic features (if they occur)—masses of accumulated iron and manganese oxide in shades of red, yellow, or brown and iron depletions in shades of gray

Manahawkin Series

Drainage class: Very poorly drained
Permeability: Rapid
Landscape: North Atlantic Coastal Plain
Landform: Flood plains and swamps
Parent material: Organic, woody material over sandy alluvium
Slope range: 0 to 2 percent

Taxonomic class: Sandy or sandy-skeletal, siliceous, dysic, mesic Terric Haplosaprists

Typical Pedon

Manahawkin muck, in an area of Manahawkin muck, 0 to 2 percent slopes, frequently flooded, in Salem County, New Jersey; near Pittsgrove, northwest of Parvin State Park, south of Centerton Pond, 0.5 mile south of the intersection of Routes 553 and 540, about 200 yards southeast of Route 553, in a wooded area; USGS Elmer topographic quadrangle; lat. 39 degrees 31 minutes 29 seconds N. and long. 75 degrees 10 minutes 08 seconds W.

Oa1—0 to 7 inches; black (10YR 2/1) muck; moderate medium granular structure; 10 percent fiber, unrubbed; 2 percent fiber, rubbed; many fine roots; extremely acid; clear smooth boundary.
Oa2—7 to 28 inches; very dark brown (10YR 2/2) muck; weak medium granular structure; 10 percent fiber, unrubbed; 2 percent fiber, rubbed; common fine roots; very strongly acid; clear smooth boundary.

Oa3—28 to 39 inches; very dark brown (10YR 2/2) muck; massive; 15 percent fiber, unrubbed; 2 percent fiber, rubbed; 10 percent fine to coarse wood fragments; very strongly acid; abrupt smooth boundary.

Cg1—39 to 46 inches; grayish brown (10YR 5/2) gravelly sand; single grain; loose; nonsticky, nonplastic; 20 percent rounded fine to coarse quartzite fragments; very strongly acid; abrupt smooth boundary.

Cg2—46 to 72 inches; gray (10YR 6/1) gravelly sand; single grain; loose; nonsticky, nonplastic; 20 percent rounded fine to coarse quartzite fragments; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 72 inches
Seasonal high water table: Within a depth of 6 inches (October to July)
Thickness of the organic horizons: 16 to 51 inches of mostly sapric material
Mineral content of the organic horizons: 5 to 80 percent
Content of woody fragments: 0 to 50 percent, by volume, in the organic layers; mostly twigs, branches, or logs that range in size from 1/8 inch to 20 inches in diameter and completely break down when rubbed or crushed
Content of rock fragments: 0 to 50 percent, by volume, in the Cg horizon; mostly fine pebbles
Reaction: Extremely acid or very strongly acid in the surface layer and very strongly acid or strongly acid in the lower organic horizons and in the mineral substratum
Other features: Subhorizons or a surface layer of hemic material up to 10 inches thick in some pedons

Oa horizon:

Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2 or is neutral with value of 2 or 3; similar colors when broken face and rubbed but may differ one or two units in value or chroma

Type of organic soil material—typically muck (sapric material) but includes individual layers of mucky peat (hemic material), especially at the surface

Cg horizon:

Color—hue of 7.5YR or 10YR, value of 2 to 5, and chroma of 1 to 4 or is neutral with value of 2 to 5

Texture of the fine-earth fraction—sand, fine sand, loamy sand, or loamy fine sand

Mannington Series

Drainage class: Very poorly drained
Permeability: Moderately slow and moderate
Landscape: North Atlantic Coastal Plain
Landform: Tidal flats (fig. 12)
Parent material: Silty estuarine deposits over organic, herbaceous materials
Slope range: 0 to 1 percent

Taxonomic class: Fine-silty, mixed, active, nonacid, mesic Thapto-Histic Hydraquents

Typical Pedon

Mannington mucky silt loam, in an area of Mannington-Nanticoke complex, 0 to 1 percent slopes, very frequently flooded, in Salem County, New Jersey; 0.75 mile south of the state boat ramp, off Hook Road in Kates Creek Meadow, in an estuarine tidal marsh; USGS Penns Grove topographic quadrangle; lat. 39 degrees 37 minutes 43 seconds N. and long. 75 degrees 28 minutes 41 seconds W.

Ag—0 to 14 inches; very dark gray (5Y 3/1) mucky silt loam; massive; friable; slightly sticky, slightly plastic; 10 percent fiber, unrubbed; many very fine, fine, and medium roots; moderately acid; clear smooth boundary.

Cg—14 to 32 inches; dark gray (5Y 4/1) silt loam; massive; friable; slightly sticky, slightly plastic; 8 percent fiber, unrubbed; common very fine and fine roots; moderately acid; gradual smooth boundary.

Oa—32 to 42 inches; black (5YR 2.5/1) muck; massive; 15 percent fiber, rubbed; strongly acid; clear smooth boundary.

Oe—42 to 52 inches; very dark gray (5YR 3/1) mucky peat; massive; 20 percent fiber, rubbed; slightly acid; abrupt smooth boundary.

C'g1—52 to 62 inches; dark gray (5Y 4/1) mucky silt loam; massive; friable; slightly sticky, slightly plastic; 15 percent fiber, unrubbed; moderately acid; gradual smooth boundary.

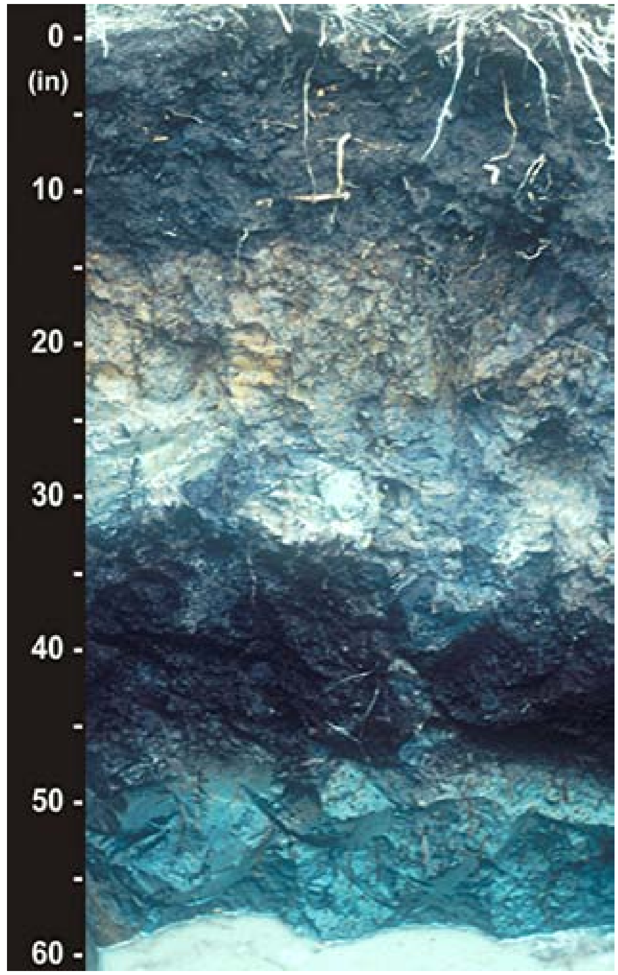

Figure 12.—A profile of a Mannington soil. These soils formed in silty and loamy alluvial sediments underlain by a sequence of organic and mineral layers in freshwater estuarine marshes along tidally influenced rivers and streams.

C'g2—62 to 90 inches; dark gray (5Y 4/1) silt loam; massive; friable; slightly sticky, slightly plastic; 10 percent fiber, unrubbed; moderately acid.

Range in Characteristics

Depth to bedrock: More than 90 inches
Seasonal high water table: Within a depth of 6 inches (January to December); flooded by tidally influenced freshwater twice daily and by storm surge events
Content of rock fragments: 0 to 5 percent, by volume, throughout; mostly quartzite gravel
Thickness of the mineral surface layer: 20 to 50 inches
Thickness of the underlying organic layers: 10 to 35 inches
Electrical conductivity throughout the profile: 1 to 4 millimhos per centimeter
Reaction: Moderately acid to neutral throughout
Other features: n-value typically more than 1.0 but ranges from 0.7 to 1.0 in the C'g horizon

Ag horizon:
Color—hue of 10YR to 5GY, value of 2 to 4, and chroma of 1 or 2 or is neutral with value of 2 to 4

Texture—silt loam or mucky silt loam
Redoximorphic features—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive
Organic matter content—2 to 12 percent

Cg horizon:
Color—hue of 7.5YR to 5GY, value of 3 to 6, and chroma of 1 or 2 or is neutral with value of 4 to 6
Texture—silt loam, mucky silt loam, or silty clay loam
Redoximorphic features—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive
Organic matter content—2 to 12 percent

Oa or Oe horizon:
Color—hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2 or is neutral with value of 2 or 3
Type of organic soil material—muck or mucky peat (sapric or hemic soil material)
Mineral matter content—10 to 50 percent

C'g horizon:
Color—hue of 10YR to 5GY, value of 3 to 6, and chroma of 1 or 2 or is neutral with value of 4 to 6
Texture—silt loam, mucky silt loam, or silty clay loam; thin strata of sandy loam, fine sandy loam, or very fine sandy loam in some pedons; less than 1-inch-thick strata of sand or organic material in other pedons
Redoximorphic features—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive
Organic matter content—2 to 12 percent

Marlton Series

Drainage class: Moderately well drained
Permeability: Slow to moderate
Landscape: North Atlantic Coastal Plain
Landform: Ridges
Parent material: Glauconitic clayey marine deposits
Slope range: 2 to 10 percent

Taxonomic class: Fine, glauconitic, mesic Oxyaquic Hapludults

Taxadjunct statement: The Marlton soils in Salem County are taxadjuncts to the series because they generally do not have iron depletions with chroma of 2 or less and value of 4 or more in the upper 24 inches of the argillic horizon.

Typical Pedon

Marlton silt loam, in an area of Marlton silt loam, 2 to 5 percent slopes, in Salem County, New Jersey; 1.25 miles north of Route 40 on Sharptown Auburn Road, 0.15 mile east of the road, in a cultivated field; USGS Woodstown topographic quadrangle; lat. 39 degrees 40 minutes 42 seconds N. and long. 75 degrees 22 minutes 04 seconds W.

Ap—0 to 8 inches; dark grayish brown (2.5Y 4/2) silt loam; moderate fine granular structure; friable; slightly sticky, slightly plastic; many medium roots; moderately acid; abrupt smooth boundary.

BAt—8 to 11 inches; light olive brown (2.5Y 5/6) silt loam; strong fine and medium subangular blocky structure; friable; slightly sticky, slightly plastic; common fine roots; 30 percent faint clay films; moderately acid; clear wavy boundary.

2Bt1—11 to 16 inches; olive yellow (2.5Y 6/6) clay; strong medium prismatic structure; friable; very sticky, very plastic; common fine roots; 70 percent faint clay films; 10 percent fine prominent irregular olive (5Y 5/4) and yellowish red (5Y 5/8) masses of accumulated iron and manganese oxide with clear boundaries throughout; very strongly acid; gradual wavy boundary.

2Bt2—16 to 28 inches; dark olive gray (5Y 3/2) clay; strong coarse prismatic structure; friable; very sticky, very plastic; common fine roots; 80 percent faint clay films; 15 percent fine prominent irregular yellowish red (5YR 5/8) nodules of iron and manganese oxide with clear boundaries throughout; very strongly acid; gradual smooth boundary.

2C—28 to 72 inches; dark olive gray (5Y 3/2) sandy loam; massive; friable; nonsticky, slightly plastic; very strongly acid.

Range in Characteristics

Depth to bedrock: More than 72 inches

Depth to the seasonal high water table: 18 to 42 inches (October to June)

Content of rock fragments: 0 to 20 percent, by volume, throughout; mostly quartzite with occasional ironstone, mostly fine or medium in size; thin strata with 20 to 35 percent fragments in the subsoil in some pedons

Reaction: In unlimed areas, extremely acid to strongly acid throughout; stratified black or greenish black layers within the C horizon may be ultra acid upon exposure to air

Content of glauconite: 2 to 20 percent pellets, by volume, in the A horizon and more than 20 percent in the B and C horizons

Ap or A horizon:

Color—hue of 5Y to 10YR, value of 3 or 4, and chroma of 2 to 4

Texture of the fine-earth fraction—sandy loam, fine sandy loam, loam, or silt loam

BA or BE horizon:

Color—hue of 5Y to 10YR, value of 4 to 6, and chroma of 2 to 4

Texture of the fine-earth fraction—sandy loam, fine sandy loam, loam, or silt loam

2Bt horizon:

Color—hue of 2.5Y or 5Y, value of 3 to 5, and chroma of 3 to 6 or hue of 5GY to 5G, value of 2.5 to 6, and chroma of 1 or 2

Texture of the fine-earth fraction—clay, sandy clay, or sandy clay loam

Redoximorphic features—masses of accumulated iron and manganese oxide in shades of red, yellow, brown, or olive and iron depletions in shades of olive or brown; gray or grayish brown iron depletions with chroma of 2 or less in the lower part of the 2Bt horizon, 24 inches below the upper boundary, in some pedons; difficult to distinguish iron depletions in most pedons because of the masking effects of the dark olive and dark greenish parent materials

2BC horizon (if it occurs):

Color—hue of 2.5Y or 5Y, value of 3 to 5, and chroma of 3 to 6 or hue of 5GY to 5G, value of 2.5 to 6, and chroma of 1 or 2

Texture of the fine-earth fraction—sandy clay, sandy clay loam, loam, or sandy loam

Redoximorphic features—masses of accumulated iron and manganese oxide in shades of red, yellow, brown, or olive and iron depletions in shades of olive or brown; gray or grayish brown iron depletions with chroma of 2 or less in some

pedons; difficult to distinguish iron depletions in most pedons because of masking effects of the dark olive and dark greenish parent material

2C horizon:

Color—hue of 2.5Y or 5Y, value of 3 to 5, and chroma of 3 to 6 or hue of 10Y to 5G, value of 2.5 to 6, and chroma of 1 or 2

Texture of the fine-earth fraction—sandy loam, sandy clay loam, sandy clay, or clay and is commonly stratified with sandy textures

Redoximorphic features (if they occur)—masses of accumulated iron and manganese oxide in shades of red, yellow, brown, or olive and iron depletions in shades of olive or brown; gray or grayish brown iron depletions with chroma of 2 or less in some pedons; difficult to distinguish iron depletions in most pedons because of the masking effects of the dark olive and dark greenish parent materials

Matapeake Series

Drainage class: Well drained
Permeability: Moderate and moderately rapid
Landscape: North Atlantic Coastal Plain
Landform: Broad ridges, upland flats, and upland terraces
Parent material: Silty eolian deposits over marine deposits or silty eolian deposits over coarse fluviomarine deposits, or both
Slope range: 0 to 10 percent

Taxonomic class: Fine-silty, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Matapeake silt loam, in an area of Matapeake silt loam, 0 to 2 percent slopes, in Salem County, New Jersey; in Hopewell, 1.1 miles east of the intersection of Buttonwood Road and Cohansey Road, 100 feet north of Buttonwood Road, in a cultivated field; USGS Elmer topographic quadrangle; lat. 39 degrees 35 minutes 36 seconds N. and long. 75 degrees 12 minutes 30 seconds W.

Ap—0 to 10 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine granular structure; friable; slightly sticky, slightly plastic; strongly acid; clear smooth boundary.

Bt1—10 to 25 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; 15 percent faint clay films; moderately acid; clear smooth boundary.

Bt2—25 to 33 inches; strong brown (7.5YR 5/6) silt loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; 15 percent faint clay films; moderately acid; abrupt smooth boundary.

2C1—33 to 50 inches; brownish yellow (10YR 6/6) stratified sandy loam and loamy sand; massive; friable; nonsticky, nonplastic; moderately acid; clear smooth boundary.

2C2—50 to 72 inches; brownish yellow (10YR 6/6) sand; single grain; loose; nonsticky, nonplastic; moderately acid.

Range in Characteristics

Thickness of the solum: 24 to 60 inches
Depth to bedrock: More than 72 inches
Depth to a seasonal high water table: Dominantly more than 72 inches; an apparent seasonal high water table at a depth of 48 to 72 inches in some pedons at elevations of less than 25 feet

Depth to lithologic discontinuity: 30 to 40 inches
Content of rock fragments: Less than 5 percent, by volume, in the A and Bt horizons and 0 to 10 percent in the 2BC and 2C horizons; mostly quartz pebbles
Reaction: In unlimed areas, extremely acid to strongly acid throughout
Other features: Transition from the fine-silty Bt horizon to the sandy 2C horizon more than 5 inches thick

Ap horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 6
Texture—silt loam, loam, or fine sandy loam

A horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 to 3; value of 3 or less if horizon less than 7 inches thick
Texture—silt loam, loam, or fine sandy loam

E horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 6
Texture—silt loam, loam, or fine sandy loam

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 8
Texture—silt loam or silty clay loam

2BC horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8
Texture—loam, fine sandy loam, or sandy loam

2C horizon:
Color—hue of 5YR to 5Y, value of 4 to 7, and chroma of 3 to 8; streaks of clean sand with chroma of 3 or less in some pedons
Texture—fine sandy loam, sandy loam, loamy fine sand, loamy sand, or sand; thin gravelly strata less than 1 foot thick in some pedons

Mattapex Series

Drainage class: Moderately well drained
Permeability: Moderate to rapid
Landscape: North Atlantic Coastal Plain
Landform: Upland terraces, upland flats, and broad ridges
Parent material: Silty eolian deposits over coarser fluviomarine deposits
Slope range: 0 to 5 percent

Taxonomic class: Fine-silty, mixed, active, mesic Aquic Hapludults

Typical Pedon

Mattapex silt loam, in an area of Mattapex silt loam, 0 to 2 percent slopes, in Salem County, New Jersey; 1.2 miles southeast of the intersection of Harmersville Pecks Corner Road and Tattletown Jericho Road, 0.5 mile west of Tattletown Jericho Road, south of dirt road, in a cultivated field; USGS Elmer topographic quadrangle; lat. 39 degrees 35 minutes 31 seconds N. and long. 75 degrees 12 minutes 30 seconds W.

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium granular structure; friable; slightly sticky, slightly plastic; many fine and medium roots; slightly acid; clear smooth boundary.

Bt1—7 to 18 inches; brownish yellow (10YR 6/6) silt loam; weak medium subangular blocky structure; friable; slightly sticky, slightly plastic; common fine and medium roots; 15 percent faint clay films; moderately acid; clear smooth boundary.

Bt2—18 to 33 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common very fine and fine roots; 15 percent faint clay films; moderately acid; gradual smooth boundary.

Bt3—33 to 40 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; moderately sticky, moderately plastic; common very fine and fine roots; 15 percent faint clay films; 10 percent medium prominent irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries throughout; moderately acid; gradual smooth boundary.

2C—40 to 72 inches; yellowish brown (10YR 5/6) loamy sand; single grain; loose; nonsticky, nonplastic; 10 percent medium prominent irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries throughout; moderately acid.

Range in Characteristics

Thickness of the solum: 24 to 48 inches
Depth to bedrock: More than 72 inches
Depth to a seasonal high water table: 18 to 36 inches (January to April)
Depth to lithologic discontinuity: 30 to 50 inches
Content of rock fragments: 0 to 5 percent, by volume, throughout; individual horizons, generally less than 12 inches thick, range to 20 percent
Reaction: In unlimed areas, extremely acid to strongly acid throughout the profile

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 4
Texture—silt loam, loam, or fine sandy loam

E or BE horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 or 4
Texture—silt loam, loam, or fine sandy loam
Redoximorphic features—masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 3 to 8
Texture—silt loam or silty clay loam, with 18 to 30 percent clay and more than 50 percent silt in the particle-size control section
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Btg horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—silt loam or silty clay loam
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

2BC horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 6
Texture—loam, fine sandy loam, sandy clay loam, or loamy sand
Redoximorphic features—iron depletions in shades of olive or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

2BCg horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—loam, fine sandy loam, sandy clay loam, or loamy sand
Redoximorphic features—iron depletions in shades of olive or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

2C horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 6
Texture—loam, fine sandy loam, sandy loam, loamy sand, loamy fine sand, or sand
Redoximorphic features—iron depletions in shades of olive or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

2Cg horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
Texture—loam, fine sandy loam, sandy loam, loamy sand, loamy fine sand, or sand
Redoximorphic features—iron depletions in shades of olive or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Mullica Series

Drainage class: Very poorly drained
Permeability: Moderately rapid and rapid
Landscape: North Atlantic Coastal Plain
Landform: Flood plains, depressions, and drainageways (fig. 13)
Parent material: Sandy or loamy fluviomarine deposits, or both
Slope range: 0 to 2 percent

Taxonomic class: Coarse-loamy, siliceous, semiactive, acid, mesic Typic Humaquepts

Typical Pedon

Mullica mucky peat, in an area of Berryland and Mullica soils, 0 to 2 percent slopes, occasionally flooded, in Salem County, New Jersey; 1.0 mile north of the intersection of Pennsgrove Auburn Road and Pedricktown Road, 0.75 mile northwest of Pedricktown Road, in a wooded area; USGS Penns Grove topographic quadrangle;

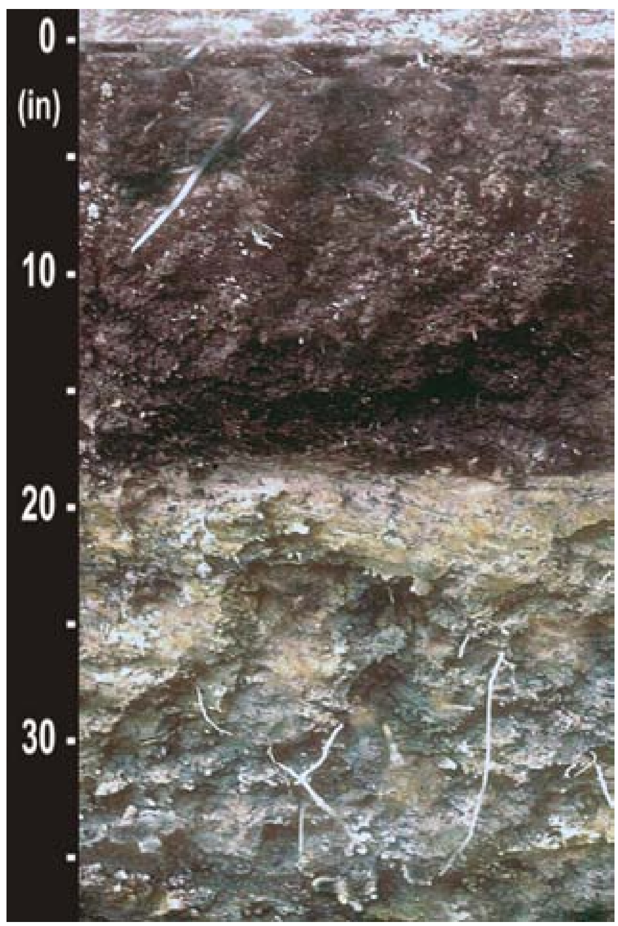

Figure 13.—A profile of a Mullica soil. These very poorly drained soils formed in sandy and loamy fluviomarine sediments on broad flats along streams in low headwater areas or in small, scattered low-lying areas.

lat. 39 degrees 44 minutes 09 seconds N. and long. 75 degrees 26 minutes 23 seconds W.

Oa—0 to 4 inches; dark reddish brown (5YR 3/2) muck; massive; extremely acid; abrupt smooth boundary.

Ag—4 to 20 inches; very dark gray (10YR 3/1) sandy loam; moderate medium subangular blocky structure; friable; nonsticky, nonplastic; common fine and medium roots; extremely acid; clear smooth boundary.

Bg1—20 to 28 inches; dark grayish brown (10YR 4/2) sandy loam; moderate medium subangular blocky structure; friable; nonsticky, nonplastic; common very fine and fine roots; extremely acid; clear smooth boundary.

Bg2—28 to 34 inches; dark yellowish brown (10YR 3/4) sandy loam; moderate medium subangular blocky structure; friable; nonsticky, nonplastic; common very fine and fine roots; 1 percent medium distinct irregular dark grayish brown (10YR 4/2) iron depletions with diffuse boundaries throughout; very strongly acid; abrupt smooth boundary.

Cg1—34 to 40 inches; light brownish gray (10YR 6/2) loamy sand; single grain; loose; nonsticky, nonplastic; 15 percent fine prominent irregular yellowish brown (10YR 5/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; very strongly acid; abrupt smooth boundary.

Cg2—40 to 45 inches; light brownish gray (10YR 6/2) sandy clay loam; massive; friable; slightly sticky, slightly plastic; 15 percent fine prominent irregular dark yellowish brown (10YR 4/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; very strongly acid; abrupt smooth boundary.

Cg3—45 to 72 inches; light brownish gray (10YR 6/2) loamy sand; single grain; loose; nonsticky, nonplastic; very strongly acid.

Range in Characteristics

Thickness of the solum: 20 to 40 inches

Depth to bedrock: More than 72 inches

Seasonal high water table: Within a depth of 6 inches

Content of rock fragments: 0 to 15 percent, by volume, in the A, E, and B horizons and 0 to 35 percent in the C horizon; mostly fine pebbles

Reaction: In unlimed areas, extremely acid or very strongly acid throughout the profile

Oi horizon (if it occurs):

Type of organic soil material—peat (fibric soil materials) or slightly decomposed woody plant material

Oe or Oa horizon:

Color—hue of 5YR to 10YR, value of 3 to 6, and chroma of 1 or 2 or is neutral with value of 4 to 6

Type of organic soil material—mucky peat (hemic soil materials) or muck (sapric soil materials)

Ag or Ap horizon:

Color—hue of 10YR to 5Y, value of 2 or 3, and chroma of 1 or 2 or is neutral with value of 2 or 3

Texture of the fine-earth fraction—loam, sandy loam, or loamy sand

Organic matter content—2 to 20 percent

Eg or BEg horizon (if it occurs):

Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2 or is neutral with value of 4 to 6

Texture of the fine-earth fraction—sandy loam or loamy sand

Bg horizon:
Color—hue of 10YR to 5Y, value of 3 to 6, and chroma of 1 or 2 or is neutral with value of 3 to 6
Texture of the fine-earth fraction—sandy loam; thin strata of loamy sand or sandy clay loam in some pedons
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

BCg horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 3 to 6, and chroma 1 or 2 or is neutral with value of 3 to 6
Texture of the fine-earth fraction—sandy loam or loamy sand; thin strata of loam or sandy clay loam in some pedons
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Cg horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 6, and chroma of 1 or 2 or is neutral with value of 3 to 6
Texture of the fine-earth fraction—dominantly sand or loamy sand, but thin strata of sandy loam or sandy clay loam common below a depth of 40 inches
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Muttontown Series

Drainage class: Moderately well drained
Permeability: Moderately rapid and rapid
Landscape: North Atlantic Coastal Plain
Landform: Shallow depressions, terraces, and flats
Parent material: Sandy or loamy fluviomarine deposits, or both
Slope range: 0 to 2 percent

Taxonomic class: Coarse-loamy, mixed, semiactive, mesic Aquic Hapludults

Typical Pedon

Muttontown sandy loam, in an area of Muttontown sandy loam, 0 to 2 percent slopes, in Salem County, New Jersey; near Woodmere, 800 feet east of the intersection of Perry Road and Hamersville Pecks Corner Road, 0.45 mile north of Pecks Corner Road, in a wooded area; USGS Salem topographic quadrangle; lat. 39 degrees 30 minutes 34 seconds N. and long. 75 degrees 24 minutes 12 seconds W.

Oe—0 to 2 inches; dark brown (7.5YR 3/4) moderately decomposed plant material; weak fine granular structure; many fine roots; slightly acid; abrupt smooth boundary.
A1—2 to 3 inches; very dark grayish brown (10YR 3/2) sandy loam; weak medium subangular blocky structure; friable; slightly sticky, slightly plastic; common fine and medium roots; slightly acid; gradual smooth boundary.
A2—3 to 7 inches; dark grayish brown (10YR 4/2) sandy loam; weak medium subangular blocky structure; friable; slightly sticky, slightly plastic; common fine and medium roots; slightly acid; gradual smooth boundary.
Bt1—7 to 20 inches; light yellowish brown (10YR 6/4) sandy loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic;

common fine, medium, and coarse roots; 15 percent faint clay films and 30 percent clay bridging between sand grains; moderately acid; gradual smooth boundary.

Bt2—20 to 38 inches; yellowish brown (10YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common fine and medium roots; 30 percent faint clay films and 30 percent clay bridging between sand grains; 15 percent fine prominent irregular light brownish gray (10YR 6/2) iron depletions with clear boundaries throughout; 15 percent fine distinct irregular yellowish brown (10YR 5/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; moderately acid; gradual smooth boundary.

BC—38 to 57 inches; light gray (10YR 7/1) stratified sandy loam and sandy clay loam; weak medium subangular blocky structure parting to moderate medium subangular blocky; friable; slightly sticky, slightly plastic; 15 percent medium prominent irregular yellowish brown (10YR 5/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; moderately acid; gradual smooth boundary.

C—57 to 72 inches; light gray (10YR 7/1) sandy clay; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; 15 percent medium prominent irregular brownish yellow (10YR 6/6) and strong brown (7.5YR 5/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; moderately acid.

Range in Characteristics

Depth to bedrock: More than 72 inches
Depth to a seasonal high water table: 18 to 42 inches (January to April)
Content of rock fragments: 0 to 10 percent, by volume, throughout the profile; mostly quartzite gravel
Reaction: In unlimed areas, extremely acid to strongly acid throughout the profile

Oe or Oa horizon:
Color—hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 or 2
Type of organic soil material—highly decomposed or moderately decomposed plant material

A or AB horizon:
Color—hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 4
Texture—loamy sand or sandy loam

BA or BE horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 2 to 4
Texture—loamy sand or sandy loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—loamy sand, sandy loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

BC horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8
Texture—sandy loam, sandy clay loam, sandy clay, or stratified with these textures
Redoximorphic features (if they occur)—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

BCg horizon (if it occurs):

Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 1 or 2 or is neutral with value of 4 to 7

Texture—sandy loam, sandy clay loam, sandy clay, or stratified with these textures

Redoximorphic features—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

C horizon:

Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 6

Texture—sandy clay loam, sandy clay, or stratified sandy clay loam and sandy clay

Redoximorphic features (if they occur)—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Cg horizon (if it occurs):

Color—hue of 7.5YR to 5Y, value of 4 to 7, and chroma of 1 or 2 or is neutral with value of 4 to 7

Texture—sandy loam, sandy clay loam, sandy clay, or stratified with these textures

Redoximorphic features (if they occur)—iron depletions in shades of white or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Nanticoke Series

Drainage class: Very poorly drained
Permeability: Moderately slow
Landscape: North Atlantic Coastal Plain
Landform: Tidal flats
Parent material: Silty estuarine deposits
Slope range: 0 to 1 percent

Taxonomic class: Fine-silty, mixed, active, nonacid, mesic Typic Hydraquents

Typical Pedon

Nanticoke mucky silt loam, in an area of Mannington-Nanticoke complex, 0 to 1 percent slopes, very frequently flooded, in Salem County, New Jersey; 1.5 miles west of Slapes Corner, 0.5 mile northwest of Mt. Zion Church Cemetery, in the middle of Pine Island Meadow, in an estuarine tidal marsh; USGS Canton topographic quadrangle; lat. 39 degrees 28 minutes 27 seconds N. and long. 75 degrees 27 minutes 58 seconds W.

Ag—0 to 5 inches; very dark gray (10YR 3/1) mucky silt loam; massive; friable; slightly sticky, slightly plastic; 10 percent fiber, unrubbed; moderately acid; clear smooth boundary.

Cg1—5 to 50 inches; very dark gray (5Y 3/1) silt loam; massive; friable; slightly sticky, slightly plastic; 5 percent fiber, unrubbed; moderately acid; gradual smooth boundary.

Cg2—50 to 80 inches; dark gray (5Y 4/1) silt loam; massive; friable; slightly sticky, slightly plastic; moderately acid.

Range in Characteristics

Depth to bedrock: More than 80 inches

High water table: Within a depth of 6 inches (January to December); flooded by tidally influenced fresh water twice daily and by storm surge events
Content of rock fragments: Less than 2 percent, by volume, throughout the profile
Reaction: Moderately acid to neutral throughout
Electrical conductivity throughout the profile: 1 to 4 millimhos per centimeter
Other features: n-value typically more than 1.0 but ranges from 0.7 to 1.0 in the lower part of the Cg horizon

Ag horizon:
Color—hue of 10YR to 5GY, value of 2 or 3, and chroma of 1 or 2 or is neutral with value of 2 to 4
Texture—silt loam or mucky silt loam
Organic matter content—3 to 10 percent

Cg horizon:
Color—hue of 2.5Y to 5GY, value of 3 or 4, and chroma of 1 or 2 or is neutral with value of 3 to 5
Texture—silt loam, silty clay loam, or very fine sandy loam; stratified with thin sandy layers less than 1 inch thick in some pedons
Organic matter content—0.5 to 5 percent; stratified with thin organic layers in some pedons

Othello Series

Drainage class: Poorly drained
Permeability: Moderate to rapid
Landscape: North Atlantic Coastal Plain
Landform: Flats and depressions
Parent material: Silty eolian deposits over fluviomarine deposits
Slope range: 0 to 2 percent

Taxonomic class: Fine-silty, mixed, active, mesic Typic Endoaquults

Typical Pedon

Othello silt loam, in an area of Othello and Fallsington soils, 0 to 2 percent slopes, in Salem County, New Jersey; 0.44 mile northeast of the intersection of Pole Tavern-Monroeville Road and Alderman Road, in a wooded area; USGS Elmer topographic quadrangle; lat. 39 degrees 37 minutes 15 seconds N. and long. 75 degrees 12 minutes 45 seconds W.

Oe—0 to 1 inch; dark reddish brown (5YR 3/2) mucky peat; 70 percent fiber, rubbed; weak medium subangular blocky structure; extremely acid; abrupt smooth boundary.
A—1 to 13 inches; brown (7.5YR 4/2) silt loam; moderate medium subangular blocky structure; friable; nonsticky, slightly plastic; many fine and medium roots; 1 percent fine prominent irregular strong brown (7.5YR 5/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; extremely acid; abrupt smooth boundary.
Btg1—13 to 32 inches; light brownish gray (10YR 6/2) silt loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common very fine and fine roots; 45 percent faint clay films; 15 percent medium distinct irregular yellowish brown (10YR 5/4) masses of accumulated iron and manganese oxide with clear boundaries throughout; extremely acid; gradual smooth boundary.
Btg2—32 to 40 inches; gray (10YR 5/1) silty clay loam; strong medium subangular blocky structure; friable; slightly sticky, slightly plastic; common very fine and fine roots; 45 percent faint clay films; 15 percent medium prominent irregular brownish

yellow (10YR 6/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; very strongly acid; gradual smooth boundary.

2C1—40 to 60 inches; brownish yellow (10YR 6/6) loamy sand; single grain; loose; nonsticky, nonplastic; 30 percent fine and medium prominent irregular gray (N 6/0) iron depletions with clear boundaries throughout; 30 percent fine and medium distinct irregular strong brown (7.5YR 5/8) masses of accumulated iron and manganese oxide with clear boundaries throughout; very strongly acid; gradual smooth boundary.

2C2—60 to 80 inches; pale brown (10YR 6/3) sand; single grain; loose; nonsticky, nonplastic; 35 percent fine and medium prominent irregular gray (N 6/0) iron depletions with clear boundaries throughout; 35 percent fine and medium prominent irregular strong brown (7.5YR 5/8) masses of accumulated iron and manganese oxide with clear boundaries throughout; very strongly acid.

Range in Characteristics

Thickness of the solum: 24 to 50 inches
Depth to bedrock: More than 80 inches
Seasonal high water table: Within a depth of 12 inches (January to April)
Depth to lithologic discontinuity: 25 to 40 inches
Content of rock fragments: 0 to 5 percent, by volume, in the A horizon, 0 to 10 percent in the B horizon, and 0 to 20 percent in the C horizon; mostly quartz pebbles
Reaction: In unlimed areas, extremely acid to strongly acid throughout

Oe or Oa horizon:
Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 or 2
Type of organic soil material—mucky peat or muck

A horizon:
Color—hue of 7.5YR to 5Y, value of 3 or 4, and chroma of 1 to 3
Texture—silt loam, mucky silt loam, fine sandy loam, or silty clay loam

Ap horizon (if it occurs):
Color—hue of 7.5YR to 5Y, value of 4 or 5, and chroma of 1 to 3
Texture—silt loam, mucky silt loam, fine sandy loam, or silty clay loam

E or Eg horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 to 3
Texture—silt loam, fine sandy loam, or silty clay loam

Btg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2 or is neutral with value of 5 to 7
Texture—silt loam or silty clay loam
Redoximorphic features—iron depletions in shades of olive or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

2Cg horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2 or is neutral with value of 4 to 8
Texture of the fine-earth fraction—sand, loamy sand, loamy fine sand, or sandy loam
Redoximorphic features—iron depletions in shades of olive or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

2C horizon:

Color—hue of 10YR to 5Y, value of 4 to 8, and chroma of 3 or 4

Texture of the fine-earth fraction—sand, loamy sand, loamy fine sand, or sandy loam; thin strata of finer textured material in some pedons

Redoximorphic features—iron depletions in shades of olive or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Pedricktown Series

Drainage class: Very poorly drained
Permeability: Moderate to rapid
Landscape: North Atlantic Coastal Plain
Landform: Depressions, broad flats, and flood plains
Parent material: Loamy and sandy fluviomarine deposits
Slope range: 0 to 2 percent

Taxonomic class: Coarse-loamy, mixed, active, acid, mesic Humaqueptic Fluvaquents

Typical Pedon

Pedricktown mucky peat, in an area of Pedricktown, Askecksy, and Mullica soils, 0 to 2 percent slopes, rarely flooded, in Salem County, New Jersey; about 750 feet northeast along New Road from the intersection of Perkintown Road and New Road, 630 feet east on New Road, in a wooded area; USGS Penns Grove topographic quadrangle; lat. 39 degrees 44 minutes 36.63 seconds N. and long. 75 degrees 25 minutes 52.14 seconds W.

Oe—0 to 2 inches; very dark gray (10YR 3/1) mucky peat; very strongly acid; abrupt smooth boundary.

Ag—2 to 9 inches; black (N 2/0) silt loam; weak medium subangular blocky structure parting to weak fine granular; friable; nonsticky, slightly plastic; strongly acid; clear smooth boundary.

Cg1—9 to 22 inches; dark gray (10YR 4/1) sandy loam; massive; friable; nonsticky, nonplastic; strongly acid; clear smooth boundary.

Cg2—22 to 36 inches; reddish gray (2.5YR 5/1) loamy sand; single grain; loose; nonsticky, nonplastic; 35 percent coarse prominent strong brown (7.5YR 5/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; strongly acid; clear smooth boundary.

Cg3—36 to 40 inches; dark gray (5Y 4/1) sandy clay loam; massive; firm; slightly sticky, nonplastic; 35 percent medium prominent dark yellowish brown (10YR 4/6) masses of accumulated iron and manganese oxide lining pores; strongly acid; clear smooth boundary.

Cg4—40 to 49 inches; dark gray (5Y 4/1) sandy loam; massive; friable; nonsticky, nonplastic; 15 percent medium prominent strong brown (7.5YR 5/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; strongly acid; clear smooth boundary.

Cg5—49 to 56 inches; greenish gray (5GY 5/1) loamy sand; single grain; loose; nonsticky, nonplastic; 35 percent coarse prominent strong brown (7.5YR 5/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; strongly acid; clear smooth boundary.

Cg6—56 to 72 inches; gray (2.5Y 5/1) sand; single grain; loose; nonsticky, nonplastic; 35 percent coarse prominent strong brown (7.5YR 5/6) masses

of accumulated iron and manganese oxide with clear boundaries throughout; strongly acid.

Range in Characteristics

Depth to bedrock: More than 72 inches
Seasonal high water table: Within a depth of 6 inches (November to April)
Content of rock fragments: 0 to 10 percent, by volume, throughout the profile; mostly rounded quartzite gravel
Reaction: Very strongly acid to slightly acid throughout

Oi horizon (if it occurs):
Color—hue of 7.5YR, value of 2 to 4, and chroma of 1 or 2
Type of organic soil material—peat

Oe or Oa horizon:
Color—hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 1 or 2
Type of organic soil material—mucky peat or muck

Ag horizon:
Color—hue of 10YR, value of 2 or 3, and chroma of 1 or 2 or is neutral with value of 2 or 3
Texture—silt loam or loam

Cg horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2 or is neutral with value of 4 to 6
Texture—sand, loamy sand, sandy loam, loam, sandy clay loam, or silt loam; commonly stratified in thin layers

Sassafras Series

Drainage class: Well drained (fig. 14)
Permeability: Moderate to rapid
Landscape: North Atlantic Coastal Plain
Landform: Knolls and low hills
Parent material: Loamy or gravelly fluviomarine deposits, or both
Slope range: 0 to 10 percent

Taxonomic class: Fine-loamy, siliceous, semiactive, mesic Typic Hapludults

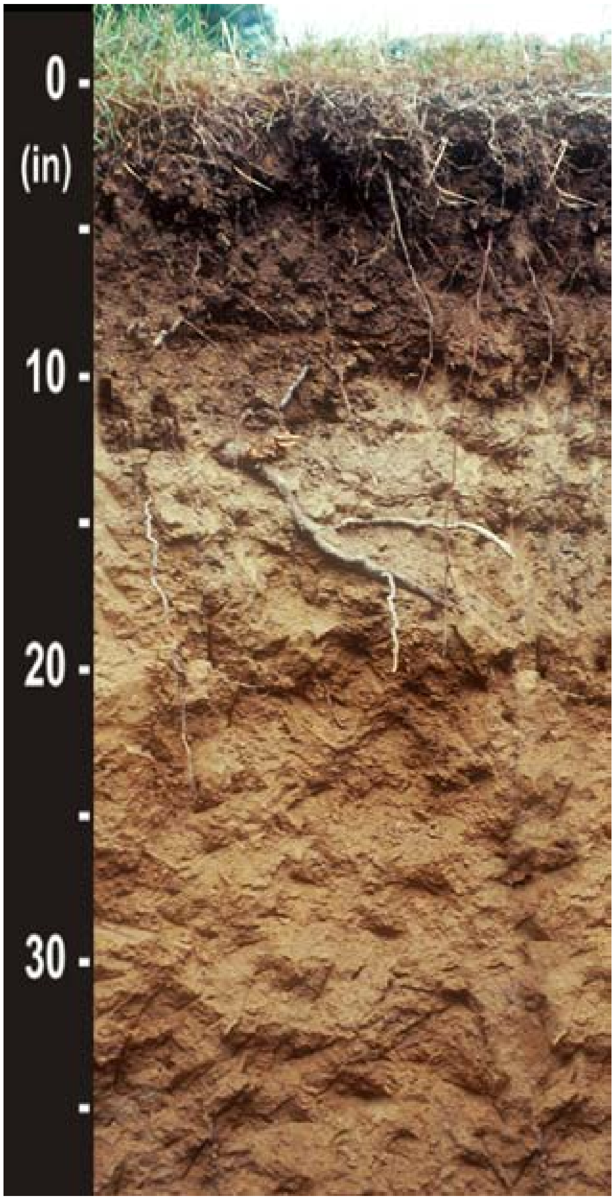

Figure 14.—A profile of a Sassafras soil. These well drained soils are on summits and side slopes.

Typical Pedon

Sassafras sandy loam, in an area of Sassafras sandy loam, 0 to 2 percent slopes, in Salem County, New Jersey; located 0.9 mile northwest of the intersection of Long Bridge Road and Canton Road, 0.5 mile northeast of Canton Road and 0.25 mile southeast of Canton Cemetery along the road, in a cultivated field; USGS Canton topographic quadrangle; lat. 39 degrees 28 minutes 38 seconds N. and long. 75 degrees 24 minutes 43 seconds W.

Ap—0 to 4 inches; dark yellowish brown (10YR 4/4) sandy loam; moderate medium granular structure; friable; nonsticky, nonplastic; common fine roots; slightly acid; abrupt smooth boundary.

Bt1—4 to 16 inches; light yellowish brown (10YR 6/4) sandy loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common very fine and fine roots; 15 percent faint clay films and 15 percent clay bridging between sand grains; slightly acid; clear smooth boundary.

Bt2—16 to 22 inches; strong brown (7.5YR 5/6) sandy loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common very fine and fine roots; 15 percent faint clay films and 30 percent clay bridging between sand grains; moderately acid; clear smooth boundary.

Bt3—22 to 45 inches; yellowish red (5YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common very fine and fine roots; 15 percent faint clay films and 30 percent clay bridging between sand grains; moderately acid; clear smooth boundary.

C1—45 to 55 inches; strong brown (7.5YR 5/6) sandy loam; moderate medium subangular blocky structure; friable; nonsticky, nonplastic; 1 percent medium faint irregular very pale brown (10YR 7/4) masses of accumulated iron and manganese oxide with diffuse boundaries throughout; moderately acid; clear smooth boundary.

C2—55 to 72 inches; pink (7.5YR 7/4) sand; single grain; loose; nonsticky, nonplastic; 1 percent medium distinct irregular strong brown (7.5YR 5/6) masses of accumulated iron and manganese oxide with diffuse boundaries throughout; moderately acid.

Range in Characteristics

Thickness of the solum: 25 to 50 inches
Depth to bedrock: More than 72 inches
Depth to a seasonal high water table: More than 72 inches
Content of rock fragments: 0 to 20 percent, by volume, in the A and B horizons and 0 to 30 percent in the C horizon; mostly quartz pebbles
Reaction: In unlimed areas, extremely acid to strongly acid throughout

Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 2 to 4
Texture of the fine-earth fraction—loam, fine sandy loam, sandy loam, loamy fine sand, or loamy sand

A horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 2 to 4, and chroma of 1 to 4
Thickness—1 to 4 inches
Texture of the fine-earth fraction—loam, fine sandy loam, sandy loam, loamy fine sand, or loamy sand

E horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 2 to 4
Texture of the fine-earth fraction—fine sandy loam, sandy loam, loamy fine sand, or loamy sand

BA or BE horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture of the fine-earth fraction—loam, fine sandy loam, sandy loam, or sandy clay loam

Bt horizon:
Color—5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture of the fine-earth fraction—loam, sandy loam, or sandy clay loam with a weighted average silt content of 20 to 35 percent

BC horizon (if it occurs):
Color—7.5YR to 2.5Y, value of 5 or 6, and chroma of 4 to 8
Texture of the fine-earth fraction—loamy sand, loamy fine sand, fine sandy loam, or sandy loam

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8 or variegated in shades of these colors
Texture of the fine-earth fraction—sandy loam, loamy sand, or sand; transition to sand more than 5 inches
Redoximorphic features—iron depletions in shades of olive or gray and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive below a depth of 72 inches

Sharptown Series

Drainage class: Moderately well drained
Permeability: Moderately slow and moderate
Landscape: North Atlantic Coastal Plain
Landform: Upland terraces and broad ridges
Parent material: Silty eolian deposits over glauconitic loamy marine deposits
Slope range: 0 to 5 percent

Taxonomic class: Fine-silty, mixed, active, mesic Aquic Hapludults

Typical Pedon

Sharptown silt loam, in an area of Sharptown silt loam, 0 to 2 percent slopes, in Salem County, New Jersey; 0.25 mile south and 250 feet west of the intersection of Kings Highway and Featherbed Lane, in the Cowtown Rodeo pasture; USGS Woodstown topographic quadrangle; lat. 39 degrees 40 minutes 28 seconds N. and long. 75 degrees 21 minutes 44 seconds W.

Ap—0 to 10 inches; dark grayish brown (10YR 4/2) sandy loam; strong fine granular structure; friable; slightly sticky, slightly plastic; many fine roots; very strongly acid; abrupt smooth boundary.
Bt1—10 to 20 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; many fine roots; 60 percent faint clay films; very strongly acid; clear smooth boundary.
Bt2—20 to 23 inches; brown (7.5YR 5/4) silt loam; moderate fine subangular blocky structure parting to strong medium subangular blocky; friable; slightly sticky, slightly plastic; common fine roots; 30 percent distinct clay films; 1 percent medium prominent irregular pale yellow (2.5Y 7/4) masses of accumulated iron and manganese oxide with diffuse boundaries throughout; 5 percent glauconite pellets; very strongly acid; clear smooth boundary.
Bt3—23 to 38 inches; brown (7.5YR 5/4) silt loam; weak coarse prismatic structure parting to moderate coarse subangular blocky; friable; slightly sticky, slightly

plastic; common fine roots; 30 percent prominent clay films; 15 percent medium prominent irregular light gray (2.5Y 7/2) iron depletions with clear boundaries in the matrix; 5 percent glauconite pellets; very strongly acid; clear smooth boundary.

BC—38 to 44 inches; strong brown (7.5YR 5/8) loam; massive; friable; slightly sticky, nonplastic; common fine roots; 15 percent medium prominent irregular gray (10YR 5/1) iron depletions with clear boundaries in matrix; 15 percent fine prominent irregular light olive brown (2.5Y 5/4) masses of accumulated iron and manganese oxide throughout with diffuse boundaries; 15 percent glauconite pellets; very strongly acid; clear smooth boundary.

2C1—44 to 46 inches; light olive brown (2.5Y 5/6) sandy loam; massive; friable; nonsticky, nonplastic; 30 percent medium prominent irregular light gray (10YR 7/1) iron depletions with clear boundaries in matrix; 30 percent fine prominent irregular brown (7.5YR 5/4) masses of accumulated iron and manganese oxide with diffuse boundaries throughout; 25 percent glauconite pellets; very strongly acid; abrupt smooth boundary.

2C2—46 to 50 inches; yellowish brown (10YR 5/4) silt loam; massive; friable; slightly sticky, slightly plastic; 30 percent medium distinct irregular light gray (10YR 7/1) iron depletions with clear boundaries in matrix; 30 percent medium faint irregular brown (7.5YR 5/4) masses of accumulated iron and manganese oxide with diffuse boundaries; 30 percent glauconite pellets; very strongly acid; gradual smooth boundary.

2C3—50 to 58 inches; strong brown (7.5YR 4/6) loam; massive; friable; nonsticky, nonplastic; 30 percent medium prominent irregular light gray (10YR 7/1) and light brownish gray (2.5Y 6/2) iron depletions in matrix with clear boundaries; 40 percent glauconite pellets; very strongly acid; gradual smooth boundary.

2C4—58 to 72 inches; light brownish gray (2.5Y 6/2) silt loam; massive; friable; slightly sticky, slightly plastic; 30 percent medium prominent irregular strong brown (7.5YR 4/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; 15 percent medium distinct irregular olive gray (5Y 5/2) iron depletions in matrix with diffuse boundaries; 45 percent glauconite pellets; very strongly acid.

Range in Characteristics

Thickness of the solum: 20 to 48 inches
Depth to bedrock: More than 72 inches
Depth to the seasonal high water table: 18 to 42 inches (January to April)
Depth to lithologic discontinuity: 30 to 50 inches
Content of rock fragments: Less than 5 percent, by volume, in the A horizon and less than 10 percent in the B and C horizons; mostly quartzite gravel
Reaction: In unlimed areas, extremely acid to strongly acid throughout
Content of glauconite: 0 to 5 percent, by volume, in the A and B horizons and 10 to 50 percent in the 2C horizon

A or Ap horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 or 5, and chroma of 2 to 4
Texture—silt loam or loam

BA or BE horizon (if it occurs):
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 3 or 4
Texture—silt loam or loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 to 8, and chroma of 4 to 8
Texture—silt loam or silty clay loam

Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

BC horizon:

Color—hue of 7.5YR to 2.5Y, value of 4 to 8, and chroma of 3 to 8
Texture—silt loam, loam, or silty clay loam
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

2C horizon:

Color—7.5YR to 5Y, value of 4 to 8, and chroma of 3 to 6
Texture—sandy loam, sandy clay loam, loam, silt loam, or silty clay loam
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Swedesboro Series

Drainage class: Well drained
Permeability: Moderately rapid and rapid
Landscape: North Atlantic Coastal Plain
Landform: Broad ridges and upland terraces
Parent material: Glauconitic sandy marine deposits or glauconitic loamy marine deposits, or both
Slope range: 0 to 10 percent

Taxonomic class: Coarse-loamy, mixed, semiactive, mesic Typic Hapludults

Typical Pedon

Swedesboro loamy sand, in an area of Swedesboro loamy sand, 0 to 5 percent slopes, in Salem County, New Jersey; 0.5 mile north of the intersection of Auburn Woodstown Road and Sharptown-Auburn Road, 0.06 mile east of Auburn Woodstown Road, in a cultivated field; USGS Woodstown topographic quadrangle; lat. 39 degrees 42 minutes 47 seconds N. and long. 75 degrees 22 minutes 24 seconds W.

Ap—0 to 10 inches; olive brown (2.5Y 4/4) loamy sand; single grain; loose; nonsticky, nonplastic; common fine roots; strongly acid; clear smooth boundary.
BA—10 to 14 inches; light olive brown (2.5Y 5/6) loamy sand; weak fine subangular blocky structure; friable; nonsticky, nonplastic; common fine roots; clay bridging between sand grains; strongly acid; clear smooth boundary.
Bt1—14 to 26 inches; olive yellow (2.5Y 6/6) sandy loam; weak medium subangular blocky structure; friable; nonsticky, nonplastic; common fine roots; 10 percent faint clay films and 10 percent faint clay bridging between sand grains; strongly acid; clear smooth boundary.
Bt2—26 to 30 inches; olive yellow (2.5Y 6/6) sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common fine roots; 30 percent faint clay films and 30 percent faint clay bridging between sand grains; very strongly acid; abrupt smooth boundary.
Bt3—30 to 40 inches; brownish yellow (10YR 6/6) fine sandy loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common fine roots; 10 percent faint clay films; very strongly acid; clear smooth boundary.
BC—40 to 46 inches; olive yellow (2.5Y 6/8) loamy fine sand; massive; friable; nonsticky, nonplastic; very strongly acid; clear smooth boundary.

2C1—46 to 54 inches; olive yellow (2.5Y 6/8) sand; single grain; loose; nonsticky, nonplastic; very strongly acid; gradual smooth boundary.

2C2—54 to 72 inches; pale yellow (2.5Y 7/4) sand; single grain; loose; nonsticky, nonplastic; 5 percent medium prominent irregular olive brown (2.5Y 5/8) masses of accumulated iron and manganese oxide with diffuse boundaries throughout; very strongly acid.

Range in Characteristics

Thickness of the solum: 30 to 60 inches
Depth to bedrock: More than 72 inches
Depth to a seasonal high water table: More than 72 inches
Content of rock fragments: Less than 5 percent throughout the profile; mostly fine quartzite gravel
Reaction: In unlimed areas, extremely acid to strongly acid throughout
Content of glauconite: 1 to 10 percent, by volume, in the A and B horizons and 5 to 15 percent in the C horizon

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 to 6
Texture—loamy sand or sandy loam

BA or BE horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 or 4
Texture—loamy sand or sandy loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, or sandy clay loam

BC horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 6
Texture—loamy fine sand or loamy sand

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 4 to 8
Texture—sand or loamy sand

Transquaking Series

Drainage class: Very poorly drained
Permeability: Slow
Landscape: North Atlantic Coastal Plain
Landform: Tidal flats
Parent material: Herbaceous organic material over loamy mineral sediments
Slope range: 0 to 1 percent

Taxonomic class: Euic, mesic Typic Sulfihemists

Typical Pedon

Transquaking mucky peat, in an area of Transquaking mucky peat, 0 to 1 percent slopes, very frequently flooded, in Salem County, New Jersey; located 0.1 mile east of Hope Creek, 0.06 mile north of Alloway Creek Neck Road, in a tidal marsh; USGS Canton topographic quadrangle; lat. 39 degrees 27 minutes 34 seconds N. and long. 75 degrees 29 minutes 55 seconds W.

Oe1—0 to 14 inches; black (5YR 2.5/1) mucky peat; 70 percent fiber, rubbed; neutral; gradual smooth boundary.

Oe2—14 to 30 inches; dark reddish brown (5YR 3/2) mucky peat; 50 percent fiber, rubbed; neutral; clear smooth boundary.

Oe3—30 to 45 inches; dark reddish brown (5YR 3/2) mucky peat; 30 percent fiber, rubbed; neutral; clear smooth boundary.

Oe4—45 to 70 inches; dark reddish brown (5YR 3/2) mucky peat; 25 percent fiber, rubbed; neutral; clear smooth boundary.

Oa—70 to 90 inches; very dark brown (10YR 2/2) muck; 5 percent fiber, rubbed; neutral.

Range in Characteristics

Thickness of the organic horizons: 52 to 80 inches or more
Depth to bedrock: More than 90 inches
High water table: At the surface (January to December)
Reaction: Slightly acid or neutral in the natural state; ultra acid or extremely acid upon drying
Electrical conductivity throughout the profile: More than 8 millimhos per centimeter; typically more than 16 millimhos per centimeter
Mineral content of the organic horizons: 20 to 70 percent, by weight; thin layers of silt and very fine sand in the organic horizons of some pedons
Other features: n-value typically more than 1.0

Oi or Oa horizon:
Color—hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3
Type of organic soil material—peat (fibric soil material) or mucky peat (hemic soil material)

Oe or Oa horizon:
Color—hue of 5YR to 2.5Y, value of 2 to 5, and chroma of 1 to 4
Type of organic soil material—mucky peat (hemic soil material) or muck (sapric soil material)

Oa horizon:
Color—hue of 10YR to 5Y, value of 2 to 4, and chroma of 1 or 2
Type of organic soil material—muck (sapric soil material)

Cg horizon (if it occurs):
Color—hue of 10YR to 5GY, value of 3 or 4, and chroma of 1 or 2 or is neutral with value of 3 or 4
Texture—silt loam, silty clay loam, or silty clay; stratified thin sandy mineral layers less than 1 inch thick within the horizon in some pedons
Organic matter content—1 to 20 percent; stratified thin organic layers within the mineral horizon in some pedons

Trussum Series

Drainage class: Poorly drained
Permeability: Slow to moderate
Landscape: North Atlantic Coastal Plain
Landform: Depressions
Parent material: Clayey marine deposits
Slope range: 0 to 2 percent

Taxonomic class: Fine, mixed, active, mesic Typic Paleaquults

Typical Pedon

Trussum loam, in an area of Othello, Fallsington, and Trussum soils, 0 to 2 percent slopes, in Salem County, New Jersey; located 0.8 mile north of the intersection of

Clancey Road and Quinton-Mannington Road, 0.1 mile east of Quinton-Mannington Road, in a cultivated field; USGS Salem topographic quadrangle; lat. 39 degrees 35 minutes 00 seconds N. and long. 75 degrees 24 minutes 50 seconds W.

Ap—0 to 12 inches; dark grayish brown (10YR 4/2) loam; moderate medium granular structure; friable; slightly sticky, slightly plastic; many fine and medium roots; moderately acid; abrupt smooth boundary.

Btg—12 to 25 inches; dark grayish brown (10YR 4/2) loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common very fine and fine roots; 30 percent faint clay films; 1 percent fine distinct irregular yellowish brown (10YR 5/4) masses of accumulated iron and manganese oxide with clear boundaries throughout; moderately acid; abrupt smooth boundary.

Bt1—25 to 35 inches; strong brown (7.5YR 5/6) clay; strong medium subangular blocky structure; friable; moderately sticky, very plastic; 30 percent faint clay films; 30 percent fine and medium prominent irregular pinkish gray (7.5YR 6/2) iron depletions with clear boundaries throughout; strongly acid; gradual smooth boundary.

Bt2—35 to 60 inches; brown (7.5YR 5/4) clay; moderate medium subangular blocky structure; friable; very sticky, very plastic; 30 percent faint clay films; 30 percent fine and medium distinct irregular pale red (7.5R 7/2) iron depletions with clear boundaries throughout; strongly acid; gradual smooth boundary.

Bt3—60 to 66 inches; yellowish red (5YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; 15 percent faint clay films; 30 percent fine and medium prominent irregular pinkish gray (7.5YR 6/2) iron depletions with clear boundaries throughout; strongly acid; gradual smooth boundary.

Bt4—66 to 72 inches; light brown (7.5YR 6/4) sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; 15 percent faint clay films; 15 percent fine and medium distinct irregular pinkish gray (7.5YR 6/2) iron depletions with clear boundaries throughout; 15 percent fine and medium prominent irregular yellowish red (5YR 5/8) masses of accumulated iron and manganese oxide with clear boundaries throughout; strongly acid.

Range in Characteristics

Depth to bedrock: More than 72 inches
Seasonal high water table: Within a depth of 12 inches (November to May)
Content of rock fragments: 0 to 10 percent, by volume, throughout the profile; mostly fine gravel
Reaction: In unlimed areas, extremely acid to strongly acid throughout

A or Ap horizon:
Color—hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 to 3
Texture—silt loam, loam, or fine sandy loam

E or Eg horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2 or is neutral with value of 3 to 8
Texture—silt loam, loam, or fine sandy loam
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 8, and chroma of 1 or 2 or is neutral with value of 4 to 8
Texture—clay, silty clay, silty clay loam, or clay loam

Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

BCg horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2 or is neutral with value of 4 to 8
Texture—clay, sandy clay, clay loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Cg horizon (if it occurs):
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2 or is neutral with value of 4 to 7
Texture—ranges from loamy sand to sandy clay loam
Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Udorthents

Landscape: North Atlantic Coastal Plain
Landform: The natural landform greatly altered by the addition or removal of earthy materials in most areas
Parent material: Dredged fill materials or excavated borrow materials derived from river channels, pits, or previously unaltered soils
Slope range: 0 to 8 percent

Taxonomic class: Udorthents

Typical Pedon

Udorthents are in areas where the natural soil properties and qualities have been greatly altered by excavation, extensive grading, or filling. A typical pedon and sequence, depth, and composition of the layers of these soils cannot be given because the soil properties vary. Excavated or fill areas are mainly where earthy materials have been removed or pumped from river channels for use as foundation materials for roads or buildings, general urban development, or landfills.

Range in Characteristics

Because soil properties vary so much, a typical range in characteristics cannot be given.

Woodstown Series

Drainage class: Moderately well drained
Permeability: Moderate to rapid
Landscape: North Atlantic Coastal Plain
Landform: Shallow depressions, broad ridges, flats, and upland terraces
Parent material: Old alluvium or sandy marine deposits, or both
Slope range: 0 to 2 percent

Taxonomic class: Fine-loamy, mixed, active, mesic Aquic Hapludults

Typical Pedon

Woodstown sandy loam, in an area of Woodstown sandy loam, 0 to 2 percent slopes, in Salem County, New Jersey; 0.75 mile northwest of the intersection of Long Bridge

Road and Canton Road, 0.3 mile northeast of Canton Road, and 0.38 mile northeast of Canton Cemetery along the road, in a cultivated field; USGS Canton topographic quadrangle; lat. 39 degrees 29 minutes 05 seconds N. and long. 75 degrees 24 minutes 30 seconds W.

Ap—0 to 10 inches; dark yellowish brown (10YR 4/4) sandy loam; moderate medium granular structure; friable; nonsticky, nonplastic; common fine roots; slightly acid; abrupt smooth boundary.

Bt1—10 to 18 inches; light yellowish brown (10YR 6/4) sandy loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common very fine and fine roots; 10 percent faint clay films and 30 percent clay bridging between sand grains; slightly acid; clear smooth boundary.

Bt2—18 to 22 inches; yellowish brown (10YR 5/6) sandy loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common very fine and fine roots; clay bridging between sand grains and 15 percent faint clay films; 1 percent medium distinct irregular very pale brown (10YR 7/4) masses of accumulated iron and manganese oxide with diffuse boundaries throughout; slightly acid; clear smooth boundary.

Bt3—22 to 40 inches; yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; slightly sticky, slightly plastic; common very fine and fine roots; 15 percent faint clay films and 30 percent clay bridging between sand grains; 1 percent medium prominent irregular light gray (10YR 7/2) iron depletions with clear boundaries throughout; moderately acid; clear smooth boundary.

BC—40 to 54 inches; yellowish brown (10YR 5/6) sandy loam; moderate medium subangular blocky structure; friable; nonsticky, nonplastic; 15 percent medium prominent irregular light gray (10YR 7/2) iron depletions with clear boundaries throughout; moderately acid; clear smooth boundary.

C—54 to 64 inches; brownish yellow (10YR 6/6) sand; single grain; loose; nonsticky, nonplastic; 15 percent medium prominent irregular light gray (10YR 7/1) iron depletions with clear boundaries throughout; moderately acid; gradual smooth boundary.

Cg—64 to 72 inches; light gray (10YR 7/1) sand; single grain; loose; nonsticky, nonplastic; 15 percent medium prominent irregular brownish yellow (10YR 6/6) masses of accumulated iron and manganese oxide with clear boundaries throughout; moderately acid.

Range in Characteristics

Thickness of the solum: 24 to 45 inches
Depth to bedrock: More than 72 inches
Depth to the seasonal high water table: 18 to 42 inches (January to April)
Content of rock fragments: 0 to 15 percent, by volume, in the A, E, and B horizons and 0 to 20 percent in the C horizon; mostly quartz pebbles
Reaction: In unlimed areas, extremely acid to strongly acid throughout

A horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 to 4
Texture of the fine-earth fraction—loam, fine sandy loam, or sandy loam

Ap horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 2 to 4
Texture of the fine-earth fraction—loam, fine sandy loam, or sandy loam

E horizon (if it occurs):
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4
Texture of the fine-earth fraction—fine sandy loam or sandy loam

BE or BA horizon (if it occurs):

Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8

Texture of the fine-earth fraction—loam, sandy loam, or fine sandy loam

Bt horizon:

Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8

Texture of the fine-earth fraction—sandy clay loam or loam; less commonly, sandy loam, fine sandy loam, or clay loam

Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

BC horizon:

Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 4 to 8

Texture of the fine-earth fraction—sandy clay loam, loam, sandy loam, or fine sandy loam

Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

BCg horizon (if it occurs):

Color—hue of 10YR to 5Y, value of 4 to 8, and chroma of 1 or 2 or is neutral with value of 4 to 8

Texture of the fine-earth fraction—sandy loam, loamy sand, or sand; thin strata of fine sandy clay loam, silt loam, or sandy clay loam in some pedons

Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

C horizon:

Color—hue of 10YR to 5Y, value of 4 to 8, and chroma of 3 to 8

Texture of the fine-earth fraction—sandy loam, loamy sand, or sand; thin strata of fine sandy clay loam, silt loam, or sandy clay loam in some pedons

Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Cg horizon:

Color—hue of 10YR to 5Y, value of 4 to 8, and chroma of 1 or 2 or is neutral with value of 4 to 8

Texture of the fine-earth fraction—sandy loam, loamy sand, or sand; thin strata of fine sandy clay loam, silt loam, or sandy clay loam in some pedons

Redoximorphic features—iron depletions in shades of olive, gray, or white and masses of accumulated iron and manganese oxide in shades of red, brown, yellow, or olive

Formation of the Soils

This section describes the factors of soil formation and relates them to the soils in Salem County. It also discusses the processes of horizon differentiation.

Factors of Soil Formation

The soils in Salem County formed by processes of the environment acting upon geologic agents, such as marine sediments, fluviomarine sediments, and alluvial sediments. The characteristics of a soil are determined by the combined influence of parent material, climate, plant and animal life, landform position, and time. These five factors are responsible for the profile development and chemical properties that differentiate soils (Jenny 1941). Figures 15, 16, and 17 illustrate some of the variations in the relationship between soils, landform position, and parent material that occur in Salem County. Table 24 shows the relationship of soil characteristics, major landforms, and drainage.

Parent Material

Parent material is the unconsolidated mass in which a soil forms. In Salem County, it is a major factor in determining what kind of soil forms and can be correlated to some degree to geologic formations.

Parent material is largely responsible for the chemical and mineralogical composition of soils and for the major differences among the soils of the county. Major differences in parent material, such as differences in texture and soil color, can be observed in the field. Less distinct differences, such as differences in mineralogical composition, can be determined only by careful laboratory analysis.

Nearly all of the soils of Salem County formed in marine sediments, fluviomarine deposits, alluvial deposits, or organic deposits or in a combination of these parent materials. Although the glaciers did not reach as far south as Salem County, meltwater from the glaciers and alluvium from ancient rivers probably covered most of the county and mixed the materials of the older marine deposits. Rounded quartzite gravel, believed to be of Pleistocene age and older, can be found in all parts of the county, including areas at the highest elevations. Although not abundant throughout the county, it is locally present in significant amounts.

The most recent deposits are of the Holocene Epoch, which began approximately 10,000 years ago. Four main types of deposits are associated with this epoch—freshwater swamp or marsh, consisting primarily of muck and peat (organic materials), sand, silt, and gravel; tidal or salt marsh, consisting of muck and peat, silt, clay, and sand; dune fields, consisting of coarse grained to fine grained sand and silt deposited and reworked by wind action; and artificial fill, consisting of human-deposited materials having widely varying properties.

During the Pleistocene Epoch, the climate of Salem County was much colder than it is now and the sea level fluctuated greatly. When the water level was low, much erosion by wind and water reworked the original soil deposits (Newell and others 1995). Except for this mixing, the soils of the county are closely related to the parent material from which they formed.

Climate

Climate, particularly precipitation and temperature, affects the physical, chemical, and biological relationships in the soil. It influences the rate at which the sediments and deposits weather and organic matter decomposes. The amount of leaching in a soil is related to the amount of rainfall and the movement of water through the soil. The effects of climate also control the kinds of plants and animals living in and on the soil. Temperature influences the kind and growth of organisms and the speed of chemical and physical reactions in the soil.

Salem County has a warm, humid climate. It is in a part of the coastal plain in New Jersey where elevation ranges from sea level to about 160 feet. The climate promotes active chemical processes, which result in the decomposition of organic matter and the weathering of sediments and deposits. The effects of climate are reflected in the soils of the county. Mild temperatures throughout the year and abundant rainfall create conditions that allow rapid decomposition of organic matter and considerable leaching of soluble bases. Because variations in the climate of the county are small, climate has probably not caused major local differences among soils. It has mainly affected the formation of soils in the county by altering the parent material through changes in temperature and in the amount of precipitation and through influences on plant and animal life.

Climatic changes were most dramatic during and after the ice age. Meltwater and the formation of rivers from glaciers to the north were responsible for the mixing of the soil materials in Salem County. High winds during this period were probably responsible for some sand deposits, from which Evesboro and similar soils eventually formed.

During the time that the soils were forming and being mixed by glacial meltwater, water covered many low areas of the county. Soils in these water-covered areas developed a thick accumulation of organic matter, which is apparent in the dark, organic-rich surface layer of soils, such as in the Manahawkin series. Uniform gray colors (gleying) in the subsoil generally indicate that iron oxides could not form in soils that developed in the water-covered areas. Other soils that formed in the higher positions on the landscape generally were well drained, developed a less organic-rich surface layer, and had iron oxides that freely formed brighter colors.

Plant and Animal Life

Plants and animals influence the formation and differentiation of soil horizons. The type and number of organisms in and on the soil are determined in part by climate and in part by the nature of the soil material, the landform position, and the age of the soil. Bacteria, fungi, and other micro-organisms aid in the weathering of sediments and deposits and in the decomposition of organic matter. The plants and animals living in an area are the primary sources of organic material for the soils in that area.

Plants largely determine the kinds and amounts of organic matter that are added to a soil under normal conditions and the way in which the organic matter is added. They also influence the leaching processes that occur in soils and the changes in base status. Plant growth and subsequent decomposition effectively redistribute basic nutrients such as calcium and magnesium throughout the soil.

Animals convert complex compounds into simpler forms, add organic matter to the soil, and modify certain chemical and physical properties of soil. In Salem County, most of the organic material accumulates on the soil surface. It is acted upon by micro-organisms, fungi, insects, earthworms, and other forms of life and by direct chemical reaction. It is mixed with the uppermost mineral part of the soil by the activities of earthworms and other small invertebrates.

The effects of human activity on the soils are most noticeable in areas where the soils have eroded or have been drained, excavated, or filled. Cultivating the soils, applying fertilizer, and landscaping also change soil properties and characteristics.

Walking and driving over the soil can result in compaction. Except for major land forming operations, most of the changes caused by human activities occur slowly; however, human activity is significant because of the extent and magnitude of the alterations that result.

Under the native forest of this county, not enough bases are brought to the surface by plants to counteract the effects of leaching. Generally, the soils of the county developed under a hardwood or pine forest. Trees took up elements from the subsoil and added organic matter to the soil by depositing leaves, roots, twigs, and other plant remains on the surface. The material deposited on the surface was acted upon by organisms and subsequently underwent chemical transformations.

In the better drained areas on uplands, organic matter decomposes at a moderate rate because of the moderate temperature and moisture supply that generally do not restrict biological activity. This results in a low or moderate accumulation of organic matter in the soil. Examples include the Downer, Sassafras, and Chillum soils. In wetter areas, organic matter decomposes more slowly and accumulates in the soils to a greater degree because animal activity, especially micro-organisms and earthworm activity, is severely reduced by saturated conditions due to the lack of oxygen. Berryland, Mullica, Fallsington, and Manahawkin soils are examples. Other examples are the Mannington and Nanticoke soils in areas on flooded tidal flats that are subject to daily tidal inundation.

Relief

Relief affects soil formation through its influence on drainage, erosion, plant cover, and soil temperature. Soils on flood plains, on broad flats, or in depressions are generally wetter than soils in the uplands. Soils on flood plains typically have redoximorphic features (commonly iron depletions or iron concentrations) in the subsoil as a result of alternate wetting and drying of the soil layers as the water table fluctuates. Red colors in some soils are caused by the oxidation of iron. Gray colors are caused by the reduction and removal of iron. Soils on flood plains that are frequently flooded are constantly being altered by periodic deposition of fresh sediment. Consequently, they have less profile development than soils on uplands or terraces that are not subject to flooding.

Relief greatly affects the potential for erosion. The hazard of erosion is much greater in the steeper areas on uplands than in nearly level or gently sloping areas. The soils in less sloping areas are therefore more stable and generally display more evidence of horizon development than the soils in the steeper areas. Soils on the steeper slopes generally have a thinner surface layer and a thinner subsoil.

Time

The time needed for a soil to form depends on the influences of the other soil-forming factors. Soil formation is more rapid in a warm, moist climate than in a cool, dry climate. Also, some kinds of parent material are more resistant to weathering than others. For example, quartz is a very hard mineral that may change very little by weathering, even if it is exposed to the elements for many centuries. Thus, the age of a soil is measured by the degree of profile development rather than by the length of time during which the soil-forming processes have been taking place.

Very young soils, such as those that formed in recent alluvium, in windblown deposits, or in materials recently deposited by humans, are essentially unaltered parent material. Examples are soils in the Chicone and Evesboro series and Fluvaquents. These relatively young soils have horizons that are strongly related to the layers of deposition, and little additional horizon differentiation has occurred.

A soil is considered to be mature when it has developed a distinct profile. Soils with well developed profiles generally have a thick subsoil or have distinct color differences or differences in content of clay between horizons.

In Salem County, the two most obvious factors affecting soil properties and features are parent material and landscape position. Figure 15 illustrates this relationship in soils developing in sandy materials. The excessively drained Evesboro soils have a sandy particle-size control section, do not have an argillic horizon, and formed in sandy marine and eolian deposits on the slightly higher landforms. The well drained Downer soils have an argillic horizon and formed in fluviomarine deposits on broad interfluves, hills, and ridges. The moderately well drained Hammonton soils have grayish iron depletions and formed in fluviomarine deposits on low hills and flats and in depressions.

Figure 16 illustrates the typical relationship between soils, landform position, and parent material for soils developing in eolian deposits underlain by sandy material. The well drained Chillum soils have a dense, compact substratum that is firm or very firm. These soils formed in silty eolian material underlain by loamy marine sediments on dissected uplands. The well drained Matapeake soils do not have a dense, compact substratum. These soils formed in silty eolian sediments underlain by coarser fluvial or marine sediments on upland interfluves and side slopes. The moderately well drained Mattapex soils have a zone of seasonal saturation at a depth of 18 to 36 inches. These soils formed in silty eolian sediments underlain by coarser fluvial or marine sediments on the slightly lower lying landforms.

Figure 17 illustrates the typical relationship between soils, landform position, and parent material for soils developing in tidal marshes. Transquaking soils formed in deep or very deep organic deposits over loamy mineral sediments and are typically farther from the uplands. Broadkill soils typically formed in very deep silty alluvial sediments and are closer to the uplands. Appoquinimink soils consist of silty alluvial material overlying organic deposits and often are in areas between those of the Broadkill and Transquaking soils. These very poorly drained, continuously saturated soils are in estuarine tidal salt marshes along tidally influenced rivers and creeks and are subject to daily tidal flooding.

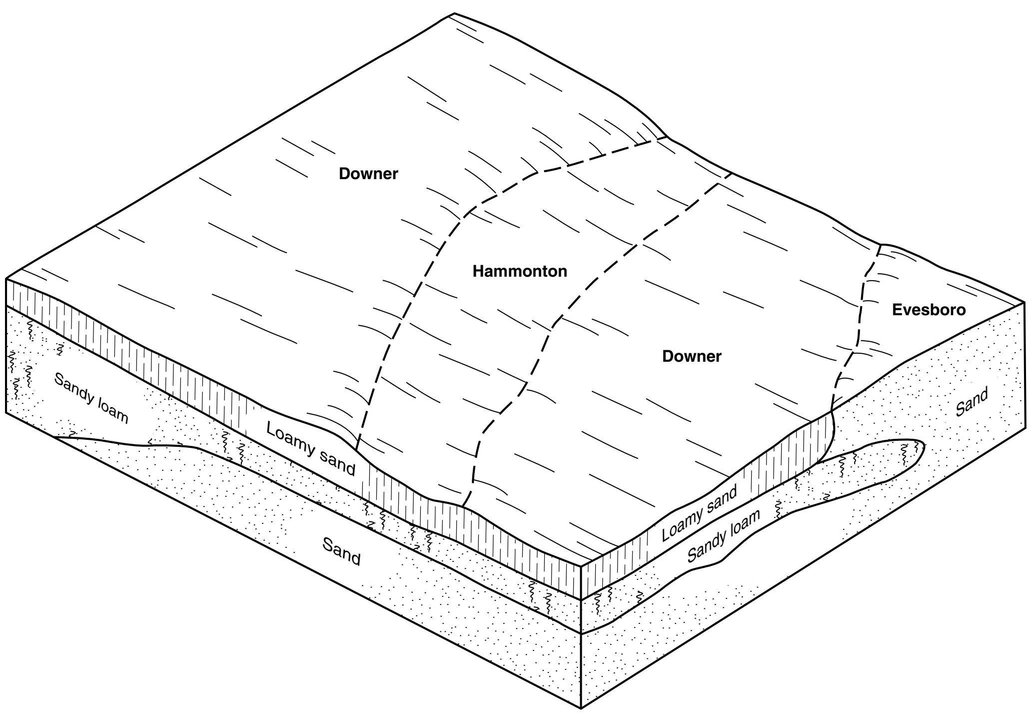

Figure 15.—Typical relationship of the soils, landform position, and parent material for soils developing in sandy materials.

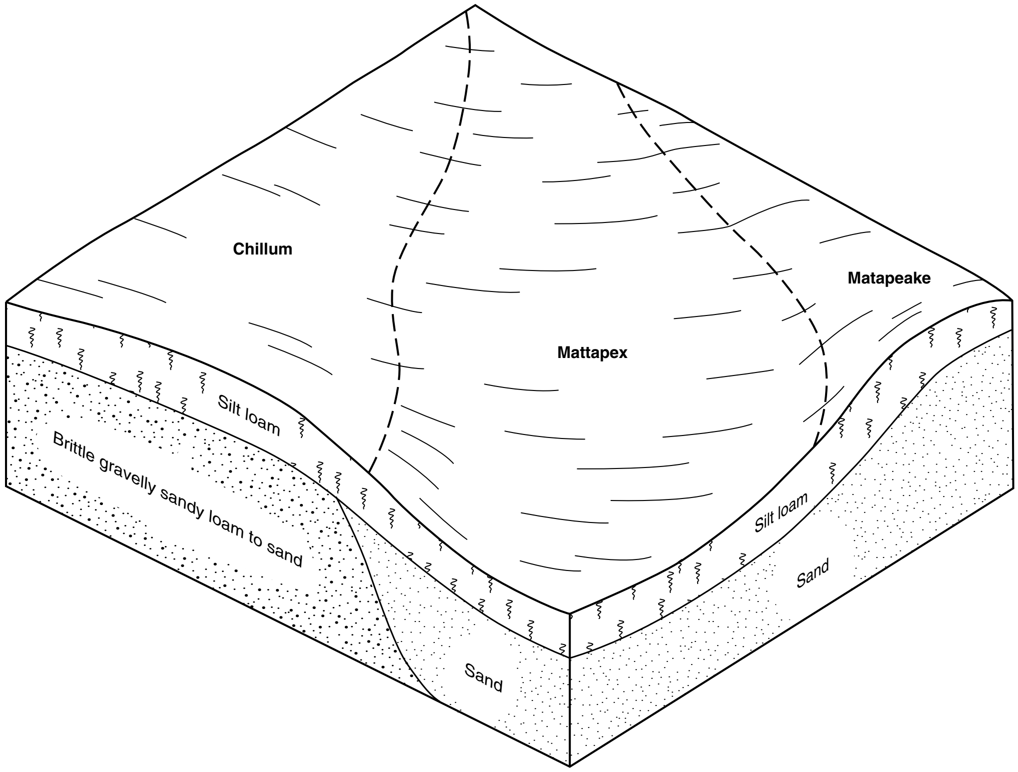

Figure 16.—Typical relationship of the soils, landform position, and parent material for soils developing in eolian deposits underlain by sandy materials.

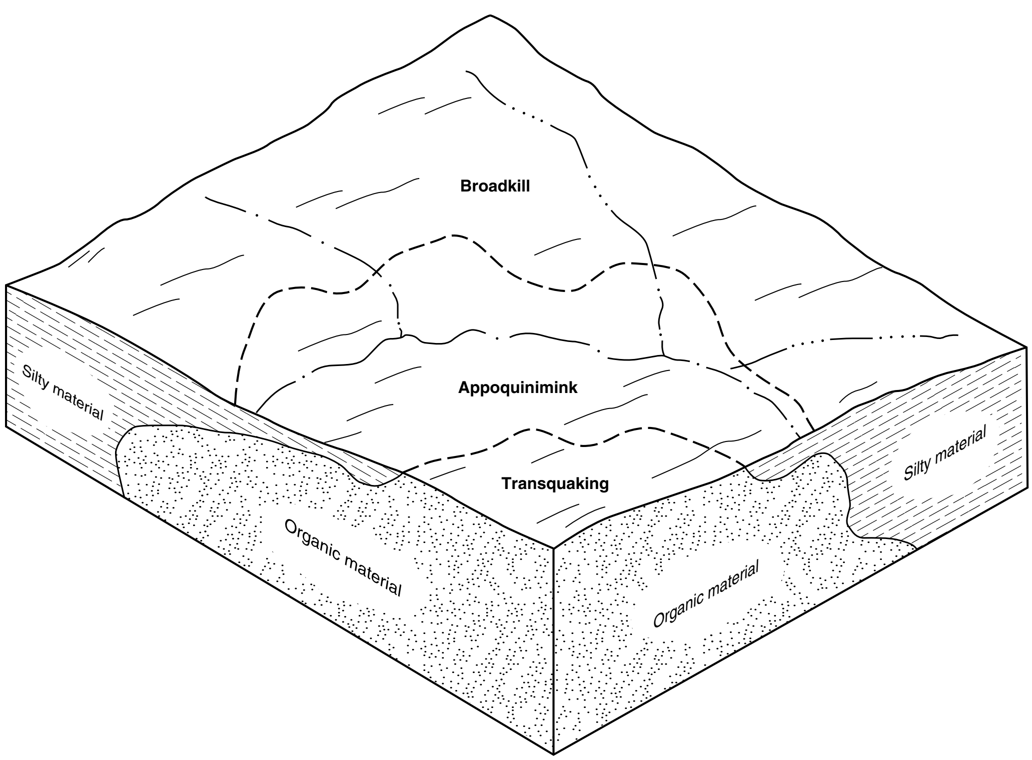

Figure 17.—Typical relationship of the soils, landform position, and parent material for soils developing in tidal marshes.

Processes of Horizon Differentiation

One or more soil-forming processes are involved in the formation of soil horizons. These processes are the accumulation of organic matter; the leaching of carbonates and other soluble material; the chemical weathering, mainly by hydrolysis, of primary minerals into silicate clay minerals; the translocation of silicate clay and some silt-sized particles from one horizon to another; and the reduction and transfer of iron.

These processes have been active in the formation of most of the soils in Salem County. The interaction of the first four processes is indicated by the strongly expressed horizons in Aura and Sassafras soils. All five processes have been active in the formation of the poorly drained Othello and moderately well drained Woodstown soils, where iron transformation is evident as shown by the grayish colors, which are due to iron reduction, and the yellowish or reddish colors, which are due to iron oxidation.

Organic matter accumulation is evident in nearly all of the soils in the survey area. Most of the soils contain low to moderate amounts of organic matter in the surface layer. The content of organic matter ranges from low, as in the excessively drained Evesboro soils, to high, as in the very poorly drained Manahawkin, Mannington, and Nanticoke soils, where the soil is saturated near the surface for long periods of time and decomposition of organic matter is much slower.

The translocation of clay minerals is an important process in the development of many soils in the survey area. As clay minerals are removed from the A horizon, they accumulate initially as clay films on the faces of peds, in pores, and in root channels in the B horizon. Over time the clay coatings are incorporated into the matrix of the B horizon. Plant and animal activity aids in this physical mixing.

As silicate clay forms from primary minerals, some iron is commonly released as hydrated oxides. These oxides are generally red, and even if they occur in small amounts, they give the soil material a brownish color. They are largely responsible for the strong brown, yellowish brown, or reddish brown colors that are dominant in the subsoil of many soils in the survey area. In other soils, such as those in the Marlton, Sharptown, and Swedesboro series, the color of the subsoil or substratum tends to be more olive or greenish because the parent material contains significant amounts of greenish glauconite, which often dominates the color of a developing subsoil.

The reduction and transfer of iron have occurred in all of the soils that are not characterized by good natural drainage. Soil features associated with chemically reduced iron are referred to as redoximorphic features. In poorly drained and very poorly drained soils, seasonal saturation from water occurs for long periods at or near the soil surface. The reduction of iron is most intense in near-surface horizons since these horizons generally have higher amounts of organic matter than lower horizons and organic matter is a source of food for micro-organisms. When the soil is saturated, micro-organisms rapidly deplete the oxygen in the soil, resulting in the reduction of iron. When saturated conditions drop to greater depths, generally during the warmer months, the reduced iron often reoxidizes, forming yellowish or reddish zones or masses. In poorly drained and very poorly drained soils such as those in the Othello, Fallsington, and Mullica series, the redoximorphic features are evidenced by reddish masses of reoxidized iron occurring in an essentially gray matrix in the subsoil.

In somewhat poorly drained and moderately well drained soils, seasonal saturation from water occurs for shorter periods and at deeper depths below the soil surface. In soils such as those in the Woodstown, Hammonton, and Galloway series, the redoximorphic features are evidenced by gray iron or clay depletions and reddish masses of reoxidized iron occurring in an essentially yellow or brown matrix within the subsoil. A gray matrix commonly occurs in the lower part of the subsoil or in the substratum of somewhat poorly drained soils.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope. A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.

Bottom land. The normal flood plain of a stream, subject to flooding.

Breaks. The steep and very steep broken land at the border of an upland summit that is dissected by ravines.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliquivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Catsteps. Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.

Cement rock. Shaly limestone used in the manufacture of cement.

Channery soil material. Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as

6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

COLE (coefficient of linear extensibility). See Linear extensibility.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Congeliturbate. Soil material disturbed by frost action.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coppice dune. A small dune of fine grained soil material stabilized around shrubs or small trees.

Coprogenous earth (sedimentary peat). Fecal material deposited in water by aquatic organisms.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal

grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine earth. That portion of the soil consisting of particles less than 2 millimeters in diameter. Particles and rock fragments 2 millimeters in diameter or larger are not included.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Glauconite. A greenish mineral closely related to micas and essentially a hydrous potassium iron silicate. It is a locally important mineral found in certain coastal plain marine sediments and is locally refered to as “greensand” or “marl.” It commonly occurs in soils as sand size “pellets.” New Jersey glauconite classes are based on percent glauconite by volume either in the mineralogy control section or upper part of the B horizon of a soil. They are as follows:

Very low	0 to 2 percent
Low	2 to 10 percent
Moderate	10 to 20 percent
High	20 to 40 percent
Very high	more than 40 percent

Glauconitic. Refers to soil or parent materials that contain glauconite.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head out. To form a flower head.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well

defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^{1}/_{3}$- or $^{1}/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;*

size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Pebble. A rounded or angular fragment of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. A collection of pebbles is referred to as gravel.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with

conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Level	0 to 1 percent
Nearly level	0 to 2 percent

Gently sloping	2 to 5 percent
Strongly sloping	5 to 10 percent
Moderately steep	10 to 15 percent
Steep	15 to 25 percent
Very steep	25 percent and higher

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^+ to Ca^{++} + Mg^{++}. The degrees of sodicity and their respective ratios are:

Slight	less than 13:1
Moderate	13-30:1
Strong	more than 30:1

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1961-90 at Woodstown, New Jersey.)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snow-fall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January--	40.1	22.3	31.2	65	-5	2	3.30	1.81	4.62	6	6.3
February-	43.2	24.1	33.6	68	-1	7	2.89	1.70	3.95	5	5.9
March----	53.7	32.3	43.0	79	11	37	3.59	2.26	4.80	6	2.3
April----	64.7	40.4	52.6	88	24	136	3.83	2.35	5.17	7	.4
May------	75.3	50.4	62.8	93	33	391	3.92	2.13	5.49	7	.0
June-----	83.8	59.8	71.8	97	44	640	3.79	1.78	5.51	6	.0
July-----	87.6	64.8	76.2	99	49	807	4.34	2.44	6.02	6	.0
August---	85.8	63.4	74.6	96	46	744	4.14	2.17	5.87	6	.0
September	79.3	56.3	67.8	94	37	524	3.49	1.91	4.88	5	.0
October--	67.9	45.2	56.5	84	25	229	3.29	1.95	4.48	4	.1
November-	56.6	36.7	46.7	77	17	62	3.73	1.76	5.42	6	.5
December-	44.9	27.6	36.2	68	5	11	3.75	1.77	5.45	6	3.6
Yearly:											
Average-	65.2	43.6	54.4	---	---	---	---	---	---	---	---
Extreme-	---	---	---	99	-7	---	---	---	---	---	---
Total---	---	---	---	---	---	3,590	44.04	36.36	50.37	70	19.2

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1961-90 at Woodstown, New Jersey.)

Probability	Temperature		
	24^{o} F or lower	28^{o} F or lower	32^{o} F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	Apr. 6	Apr. 21	May 3
2 years in 10 later than--	Apr. 1	Apr. 16	Apr. 28
5 years in 10 later than--	Mar. 24	Apr. 7	Apr. 20
First freezing temperature in fall:			
1 year in 10 earlier than--	Oct. 30	Oct. 15	Oct. 4
2 years in 10 earlier than--	Nov. 5	Oct. 21	Oct. 10
5 years in 10 earlier than--	Nov. 17	Nov. 3	Oct. 20

Table 3.--Growing Season

(Recorded in the period 1961-90 at Woodstown, New Jersey.)

Probability	Daily minimum temperature during growing season		
	Higher than 24^{o} F	Higher than 28^{o} F	Higher than 32^{o} F
	Days	Days	Days
9 years in 10	213	185	163
8 years in 10	222	194	170
5 years in 10	237	211	183
2 years in 10	253	228	196
1 year in 10	262	237	202

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
AdkB	Adelphia sandy loam, 2 to 5 percent slopes	188	*
AhmB	Alloway sandy loam, 2 to 5 percent slopes	524	0.2
AhpB	Alloway loam, 2 to 5 percent slopes	5,996	2.7
AhpC	Alloway loam, 5 to 10 percent slopes	889	0.4
AhrA	Alloway silt loam, 0 to 2 percent slopes	2,692	1.2
AhrB	Alloway silt loam, 2 to 5 percent slopes	3,068	1.4
ApbAv	Appoquinimink-Broadkill complex, 0 to 1 percent slopes, very frequently flooded	4,343	1.9
AucB	Aura loamy sand, 0 to 5 percent slopes	187	*
AugB	Aura sandy loam, 2 to 5 percent slopes	5,073	2.3
AugC	Aura sandy loam, 5 to 10 percent slopes	272	0.1
AuhB	Aura gravelly sandy loam, 2 to 5 percent slopes	2,702	1.2
AuhC	Aura gravelly sandy loam, 5 to 10 percent slopes	142	*
AupA	Aura loam, 0 to 2 percent slopes	1,356	0.6
AupB	Aura loam, 2 to 5 percent slopes	3,993	1.8
BEXAS	Berryland and Mullica soils, 0 to 2 percent slopes, occasionally flooded	589	0.3
ChsAt	Chicone silt loam, 0 to 1 percent slopes, frequently flooded	4,462	2.0
ChtA	Chillum silt loam, 0 to 2 percent slopes	395	0.2
ChtB	Chillum silt loam, 2 to 5 percent slopes	11,388	5.1
DocB	Downer loamy sand, 0 to 5 percent slopes	6,202	2.8
DocC	Downer loamy sand, 5 to 10 percent slopes	359	0.2
DoeA	Downer sandy loam, 0 to 2 percent slopes	756	0.3
DoeB	Downer sandy loam, 2 to 5 percent slopes	704	0.3
DopB	Downer-Galestown complex, 0 to 5 percent slopes	10,420	4.7
DouB	Downer-Urban land complex, 0 to 5 percent slopes	1,366	0.6
EveB	Evesboro sand, 0 to 5 percent slopes	4,376	2.0
EveC	Evesboro sand, 5 to 10 percent slopes	1,347	0.6
FmhAt	Fluvaquents, loamy, 0 to 3 percent slopes, frequently flooded	370	0.2
FodB	Fort Mott loamy sand, 0 to 5 percent slopes	2,129	1.0
GabB	Galestown sand, 0 to 5 percent slopes	3,774	1.7
GamB	Galloway loamy sand, 0 to 5 percent slopes	531	0.2
HbmB	Hammonton loamy sand, 0 to 5 percent slopes	4,916	2.2
HboA	Hammonton sandy loam, 0 to 2 percent slopes	60	*
HbrB	Hammonton-Urban land complex, 0 to 2 percent slopes	728	0.3
KeoC	Keyport loam, 5 to 10 percent slopes	24	*
MakAt	Manahawkin muck, 0 to 2 percent slopes, frequently flooded	5,332	2.4
MamnAv	Mannington-Nanticoke complex, 0 to 1 percent slopes, very frequently flooded	5,970	2.7
MasB	Marlton silt loam, 2 to 5 percent slopes	377	0.2
MasC	Marlton silt loam, 5 to 10 percent slopes	800	0.4
MbrA	Matapeake silt loam, 0 to 2 percent slopes	2,809	1.3
MbrB	Matapeake silt loam, 2 to 5 percent slopes	3,823	1.7
MbrC	Matapeake silt loam, 5 to 10 percent slopes	505	0.2
MbuA	Mattapex silt loam, 0 to 2 percent slopes	5,429	2.4
MbuB	Mattapex silt loam, 2 to 5 percent slopes	7,404	3.3
MbxB	Mattapex-Urban land complex, 0 to 5 percent slopes	726	0.3
MutA	Muttontown sandy loam, 0 to 2 percent slopes	2,236	1.0
OTKA	Othello and Fallsington soils, 0 to 2 percent slopes	8,064	3.6
OTMA	Othello, Fallsington, and Trussum soils, 0 to 2 percent slopes	18,380	8.2
PEEAR	Pedricktown, Askecksy, and Mullica soils, 0 to 2 percent slopes, rarely flooded	11,715	5.3
PHG	Pits, sand and gravel	621	0.3
PHM	Pits, clay	5	*
SacA	Sassafras sandy loam, 0 to 2 percent slopes	1,271	0.6
SacB	Sassafras sandy loam, 2 to 5 percent slopes	8,699	3.9
SacC	Sassafras sandy loam, 5 to 10 percent slopes	980	0.4
SafA	Sassafras loam, 0 to 2 percent slopes	64	*
SanA	Sassafras-Woodstown complex, 0 to 2 percent slopes	222	*
ShnA	Sharptown silt loam, 0 to 2 percent slopes	872	0.4
ShnB	Sharptown silt loam, 2 to 5 percent slopes	4,426	2.0
SwtB	Swedesboro loamy sand, 0 to 5 percent slopes	2,123	1.0
SwtC	Swedesboro loamy sand, 5 to 10 percent slopes	1,208	0.5
TrkAv	Transquaking mucky peat, 0 to 1 percent slopes, very frequently flooded	13,574	6.1
UddfB	Udorthents, dredged fine material, 0 to 8 percent slopes	6,804	3.0

Table 4.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
UdrB	Udorthents, refuse substratum, 0 to 8 percent slopes	12	*
UdsB	Udorthents, sandy substratum, 0 to 8 percent slopes	683	0.3
UR	Urban land	1,829	0.8
WATER	Water	10,381	4.7
WoeA	Woodstown sandy loam, 0 to 2 percent slopes	9,435	4.2
	Total	223,100	100.0

* Less than 0.05 percent. The combined extent of the soils assigned an asterisk in the "Percent" column is about 0.3 percent of the survey area.

Table 5.--Land Capability and Yields per Acre of Crops in Irrigated and Nonirrigated Areas

(Yields in the "N" columns are for nonirrigated areas; those in the "I" columns are for irrigated areas. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Snap beans		Corn		Peppers		Soybeans		Wheat	
		N	I	N	I	N	I	N	I	N	I
		Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu
AdkB---------------- Adelphia	2w	258	283	130	170	175	425	40	50	50	55
AhmB---------------- Alloway	2e	118	132	105	125	140	240	50	60	40	50
AhpB---------------- Alloway	2w	118	132	110	130	140	240	50	60	40	50
AhpC---------------- Alloway	3e	111	125	100	120	90	175	45	55	40	50
AhrA---------------- Alloway	2w	118	132	110	130	140	240	50	60	40	50
AhrB---------------- Alloway	2e	118	132	105	125	140	240	50	60	40	50
ApbAv: Appoquinimink, very frequently flooded	8w	---	---	---	---	---	---	---	---	---	---
Broadkill, very frequently flooded	8w	---	---	---	---	---	---	---	---	---	---
AucB---------------- Aura	2s	230	235	70	90	100	200	25	35	30	40
AugB---------------- Aura	2e	250	265	100	120	175	375	35	45	45	55
AugC---------------- Aura	3e	240	250	90	110	125	375	30	40	40	50
AuhB---------------- Aura	2e	254	265	100	130	175	375	35	45	45	55
AuhC---------------- Aura	3e	240	250	90	110	125	325	35	45	45	55
AupA---------------- Aura	1	254	265	100	120	175	375	35	45	45	55

Table 5.--Land Capability and Yields per Acre of Crops in Irrigated and Nonirrigated Areas--Continued

Map symbol and soil name	Land capability	Snap beans N	Snap beans I	Corn N	Corn I	Peppers N	Peppers I	Soybeans N	Soybeans I	Wheat N	Wheat I
		Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu
AupB----------------- Aura	2e	254	265	100	120	175	375	35	45	45	55
BEXAS:											
Berryland, occasionally flooded-----------	5w	---	---	---	---	---	---	---	---	---	---
Mullica, occasionally flooded-----------	4w	---	---	---	---	---	---	---	---	---	---
ChsAt---------------- Chicone, frequently flooded	5w	---	---	---	---	---	---	---	---	---	---
ChtA----------------- Chillum	1	240	285	130	160	225	500	45	60	50	65
ChtB----------------- Chillum	2e	240	285	130	160	225	500	45	60	50	65
DocB----------------- Downer	2s	213	225	90	110	125	325	25	35	35	45
DocC----------------- Downer	3e	190	205	80	100	75	275	20	30	30	40
DoeA----------------- Downer	1	261	270	100	120	175	375	45	50	55	65
DoeB----------------- Downer	2e	261	270	100	120	175	375	45	50	55	65
DopB:											
Downer-------------	2s	213	225	90	110	125	325	25	35	35	45
Galestown----------	3s	128	140	110	150	225	325	25	35	35	45
DouB:											
Downer-------------	2e	---	---	---	---	---	---	---	---	---	---
Urban land---------	8s	---	---	---	---	---	---	---	---	---	---
EveB----------------- Evesboro	7s	---	---	---	---	---	---	---	---	---	---

Table 5.--Land Capability and Yields per Acre of Crops in Irrigated and Nonirrigated Areas--Continued

Map symbol and soil name	Land capability	Snap beans		Corn		Peppers		Soybeans		Wheat	
		N	I	N	I	N	I	N	I	N	I
		Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu
EveC---------------- Evesboro	7s	---	---	---	---	---	---	---	---	---	---
FmhAt--------------- Fluvaquents, loamy, frequently flooded	5w	---	---	---	---	---	---	---	---	---	---
FodB---------------- Fort Mott	3s	128	140	110	150	225	325	25	35	35	45
GabB---------------- Galestown	7s	---	---	---	---	---	---	---	---	---	---
GamB---------------- Galloway	3w	118	132	110	130	125	275	30	40	30	40
HbmB---------------- Hammonton	2w	254	265	90	110	125	275	30	40	35	45
HboA---------------- Hammonton	2w	267	280	100	120	175	375	35	45	35	45
HbrB:											
Hammonton----------	2w	---	---	---	---	---	---	---	---	---	---
Urban land---------	8s	---	---	---	---	---	---	---	---	---	---
KeoC---------------- Keyport	3e	111	125	100	120	45	175	45	55	40	50
MakAt--------------- Manahawkin, frequently flooded	7w	---	---	---	---	---	---	---	---	---	---
MamnAv:											
Mannington, very frequently flooded	8w	---	---	---	---	---	---	---	---	---	---
Nanticoke, very frequently flooded	8w	---	---	---	---	---	---	---	---	---	---
MasB---------------- Marlton	2e	118	125	110	130	175	325	40	50	45	55
MasC---------------- Marlton	3e	108	118	100	120	125	275	38	48	40	50

Table 5.--Land Capability and Yields per Acre of Crops in Irrigated and Nonirrigated Areas--Continued

Map symbol and soil name	Land capability	Snap beans		Corn		Peppers		Soybeans		Wheat	
		N	I	N	I	N	I	N	I	N	I
		Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu
MbrA: Matapeake	1	240	270	140	170	225	475	45	60	50	65
MbrB: Matapeake	2e	240	270	140	170	225	475	45	60	50	65
MbrC: Matapeake	3e	210	240	120	160	175	425	30	50	35	55
MbuA: Mattapex	2w	240	270	135	165	175	375	40	55	65	75
MbuB: Mattapex	2e	240	270	135	165	175	375	40	55	65	75
MbxB:											
Mattapex	2e	---	---	---	---	---	---	---	---	---	---
Urban land	8s	---	---	---	---	---	---	---	---	---	---
MutA: Muttontown	2w	132	138	130	150	250	550	40	50	50	60
OTKA:											
Othello	3w	---	---	---	---	---	---	---	---	---	---
Fallsington	3w	---	---	---	---	---	---	---	---	---	---
OTMA:											
Othello	3w	---	---	---	---	---	---	---	---	---	---
Fallsington	3w	---	---	---	---	---	---	---	---	---	---
Trussum	4w	---	---	---	---	---	---	---	---	---	---
PEEAR:											
Pedricktown, rarely flooded	4w	---	---	---	---	---	---	---	---	---	---
Askecksy, rarely flooded	4w	---	---	---	---	---	---	---	---	---	---
Mullica, rarely flooded	4w	---	---	---	---	---	---	---	---	---	---

Table 5.--Land Capability and Yields per Acre of Crops in Irrigated and Nonirrigated Areas--Continued

Map symbol and soil name	Land capability	Snap beans		Corn		Peppers		Soybeans		Wheat	
		N	I	N	I	N	I	N	I	N	I
		Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu
PHG----------------- Pits, sand and gravel	8s	---	---	---	---	---	---	---	---	---	---
PHM----------------- Pits, clay	3w	---	---	---	---	---	---	---	---	---	---
SacA---------------- Sassafras	1	285	300	130	175	225	475	45	55	50	70
SacB---------------- Sassafras	2e	285	300	130	170	225	475	45	55	50	65
SacC---------------- Sassafras	3e	240	270	120	150	175	425	40	50	45	55
SafA---------------- Sassafras	1	295	310	130	175	225	425	45	55	50	70
SanA:											
Sassafras----------	2e	285	300	130	175	225	475	45	55	50	70
Woodstown----------	2w	255	280	130	170	175	425	40	50	45	50
ShnA---------------- Sharptown	2w	125	138	135	165	125	325	40	55	65	75
ShnB---------------- Sharptown	2e	125	138	135	165	125	325	40	55	60	70
SwtB---------------- Swedesboro	2s	185	195	70	90	---	---	15	25	20	30
SwtC---------------- Swedesboro	3e	169	180	65	85	---	---	14	24	18	28
TrkAv--------------- Transquaking, very frequently flooded	8w	---	---	---	---	---	---	---	---	---	---
UddfB--------------- Udorthents, dredged fine material	7s	---	---	---	---	---	---	---	---	---	---

Table 5.--Land Capability and Yields per Acre of Crops in Irrigated and Nonirrigated Areas--Continued

Map symbol and soil name	Land capability	Snap beans		Corn		Peppers		Soybeans		Wheat	
		N	I	N	I	N	I	N	I	N	I
		Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu	Bu
UdrB---------------- Udorthents, refuse substratum	7s	---	---	---	---	---	---	---	---	---	---
UdsB---------------- Udorthents, sandy substratum	7s	---	---	---	---	---	---	---	---	---	---
WoeA---------------- Woodstown	2w	255	280	130	170	175	425	40	50	45	50

Table 6.--Acreage by Capability Class and Subclass

(Acreage listed as "Unclassified" includes that of any water areas of significant size and other miscellaneous areas.)

Capability class	Capability subclass	Acreage
Unclassified	---	11,020
1	---	8,033
2	e	49,891
2	w	32,656
2	s	13,564
3	e	4,893
3	w	25,972
3	s	5,670
4	w	17,539
5	w	6,233
7	w	4,785
7	s	16,046
8	w	23,290
8	s	3,508

Table 7.--Prime Farmland and Other Important Farmlands

(Only the soils considered prime farmland or important farmland are listed. Urban or built-up areas of the soils listed are not considered prime or important farmland.)

Map symbol	Map unit name
Prime farmland:	
AdkB	Adelphia sandy loam, 2 to 5 percent slopes
AhmB	Alloway sandy loam, 2 to 5 percent slopes
AhpB	Alloway loam, 2 to 5 percent slopes
AhrA	Alloway silt loam, 0 to 2 percent slopes
AhrB	Alloway silt loam, 2 to 5 percent slopes
AucB	Aura loamy sand, 0 to 5 percent slopes
AugB	Aura sandy loam, 2 to 5 percent slopes
AuhB	Aura gravelly sandy loam, 2 to 5 percent slopes
AupA	Aura loam, 0 to 2 percent slopes
AupB	Aura loam, 2 to 5 percent slopes
ChtA	Chillum silt loam, 0 to 2 percent slopes
ChtB	Chillum silt loam, 2 to 5 percent slopes
DoeA	Downer sandy loam, 0 to 2 percent slopes
DoeB	Downer sandy loam, 2 to 5 percent slopes
HboA	Hammonton sandy loam, 0 to 2 percent slopes
MasB	Marlton silt loam, 2 to 5 percent slopes
MbrA	Matapeake silt loam, 0 to 2 percent slopes
MbrB	Matapeake silt loam, 2 to 5 percent slopes
MbuA	Mattapex silt loam, 0 to 2 percent slopes
MbuB	Mattapex silt loam, 2 to 5 percent slopes
MutA	Muttontown sandy loam, 0 to 2 percent slopes
SacA	Sassafras sandy loam, 0 to 2 percent slopes
SacB	Sassafras sandy loam, 2 to 5 percent slopes
SafA	Sassafras loam, 0 to 2 percent slopes
SanA	Sassafras-Woodstown complex, 0 to 2 percent slopes
ShnA	Sharptown silt loam, 0 to 2 percent slopes
ShnB	Sharptown silt loam, 2 to 5 percent slopes
SwtB	Swedesboro loamy sand, 0 to 5 percent slopes
WoeA	Woodstown sandy loam, 0 to 2 percent slopes
Farmland of statewide importance:	
AugC	Aura sandy loam, 5 to 10 percent slopes
AuhC	Aura gravelly sandy loam, 5 to 10 percent slopes
DocB	Downer loamy sand, 0 to 5 percent slopes
DocC	Downer loamy sand, 5 to 10 percent slopes
FodB	Fort Mott loamy sand, 0 to 5 percent slopes
GamB	Galloway loamy sand, 0 to 5 percent slopes
HbmB	Hammonton loamy sand, 0 to 5 percent slopes
KeoC	Keyport loam, 5 to 10 percent slopes
MasC	Marlton silt loam, 5 to 10 percent slopes
MbrC	Matapeake silt loam, 5 to 10 percent slopes
OTKA	Othello and Fallsington soils, 0 to 2 percent slopes
OTMA	Othello, Fallsington, and Trussum soils, 0 to 2 percent slopes
SacC	Sassafras sandy loam, 5 to 10 percent slopes
Farmland of unique importance:	
ApbAv	Appoquinimink-Broadkill complex, 0 to 1 percent slopes, very frequently flooded
BEXAS	Berryland and Mullica soils, 0 to 2 percent slopes, occasionally flooded
GabB	Galestown sand, 0 to 5 percent slopes
MakAt	Manahawkin muck, 0 to 2 percent slopes, frequently flooded
MamnAv	Mannington-Nanticoke complex, 0 to 1 percent slopes, very frequently flooded
TrkAv	Transquaking mucky peat, 0 to 1 percent slopes, very frequently flooded

Table 8a.--Agricultural Waste Management (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AdkB:					
Adelphia	85	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.86
AhmB:					
Alloway	90	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Slow water movement	0.41	Too acid	0.77
		Too acid	0.22	Slow water movement	0.31
		Filtering capacity	0.01	Filtering capacity	0.01
AhpB:					
Alloway	90	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Slow water movement	0.41	Too acid	0.77
		Too acid	0.22	Slow water movement	0.31
		Filtering capacity	0.01	Filtering capacity	0.01
AhpC:					
Alloway	90	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Slow water movement	0.41	Too acid	0.77
		Too acid	0.22	Slow water movement	0.31
		Filtering capacity	0.01	Filtering capacity	0.01
		Slope	0.01	Slope	0.01
AhrA:					
Alloway	90	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Slow water movement	0.41	Too acid	0.77
		Too acid	0.22	Slow water movement	0.31
AhrB:					
Alloway	90	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Slow water movement	0.41	Too acid	0.77
		Too acid	0.22	Slow water movement	0.31

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
ApbAv:					
Appoquinimink, very frequently flooded	60	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Salinity	1.00	Salinity	1.00
		Flooding	1.00	Flooding	1.00
		Sodium content	0.99	Sodium content	0.99
Broadkill, very frequently flooded	30	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Salinity	1.00	Salinity	1.00
		Flooding	1.00	Flooding	1.00
		Runoff	0.40	Filtering capacity	0.01
AucB:					
Aura	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.41	Slow water movement	0.31
		Too acid	0.05	Too acid	0.21
		Filtering capacity	0.01	Filtering capacity	0.01
AugB:					
Aura	85	Somewhat limited		Very limited	
		Too acid	0.94	Too acid	1.00
		Slow water movement	0.41	Slow water movement	0.31
		Filtering capacity	0.01	Filtering capacity	0.01
AugC:					
Aura	90	Somewhat limited		Very limited	
		Too acid	0.94	Too acid	1.00
		Slow water movement	0.41	Slow water movement	0.31
		Filtering capacity	0.01	Filtering capacity	0.01
AuhB:					
Aura	90	Somewhat limited		Very limited	
		Too acid	0.86	Too acid	1.00
		Slow water movement	0.82	Slow water movement	0.69
AuhC:					
Aura	90	Somewhat limited		Very limited	
		Too acid	0.86	Too acid	1.00
		Slow water movement	0.82	Slow water movement	0.69
AupA:					
Aura	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.41	Slow water movement	0.31
		Too acid	0.05	Too acid	0.21
		Filtering capacity	0.01	Filtering capacity	0.01

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
AupB:					
Aura----------------	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.41	Slow water movement	0.31
		Too acid	0.05	Too acid	0.21
		Filtering capacity	0.01	Filtering capacity	0.01
BEXAS:					
Berryland, occasionally flooded------------	50	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.86	Flooding	1.00
		Leaching	0.70	Too acid	1.00
Mullica, occasionally flooded------------	40	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.94	Flooding	1.00
		Flooding	0.60	Too acid	1.00
ChsAt:					
Chicone, frequently flooded------------	95	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Runoff	0.40	Too acid	0.91
		Too acid	0.32		
ChtA:					
Chillum-------------	85	Somewhat limited		Very limited	
		Too acid	0.50	Too acid	0.99
ChtB:					
Chillum-------------	85	Somewhat limited		Very limited	
		Too acid	0.50	Too acid	0.99
DocB:					
Downer--------------	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.01	Too acid	0.03
DocC:					
Downer--------------	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.01	Too acid	0.03
		Slope	0.01	Slope	0.01

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
DoeA:					
Downer	85	Somewhat limited		Somewhat limited	
		Too acid	0.01	Too acid	0.03
		Filtering capacity	0.01	Filtering capacity	0.01
DoeB:					
Downer	90	Somewhat limited		Somewhat limited	
		Too acid	0.01	Too acid	0.03
		Filtering capacity	0.01	Filtering capacity	0.01
DopB:					
Downer	55	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.01	Too acid	0.03
Galestown	35	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.73	Too acid	1.00
		Droughty	0.51	Droughty	0.51
		Leaching	0.45		
DouB:					
Downer	60	Somewhat limited		Somewhat limited	
		Too acid	0.11	Too acid	0.42
		Filtering capacity	0.01	Filtering capacity	0.01
Urban land	30	Not rated		Not rated	
EveB:					
Evesboro	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.86	Too acid	1.00
		Leaching	0.45	Droughty	0.02
		Low adsorption	0.38		
		Droughty	0.02		
EveC:					
Evesboro	95	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.86	Too acid	1.00
		Leaching	0.45	Droughty	0.02
		Low adsorption	0.38		
		Droughty	0.02		
FmhAt:					
Fluvaquents, loamy, frequently flooded	80	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Leaching	0.70	Too acid	0.42
		Too acid	0.11	Filtering capacity	0.01

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
FodB:					
Fort Mott-----------	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.73	Too acid	1.00
		Leaching	0.45		
GabB:					
Galestown-----------	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Droughty	0.88	Too acid	1.00
		Too acid	0.73	Droughty	0.88
		Leaching	0.45	Low adsorption	0.01
		Low adsorption	0.01		
GamB:					
Galloway------------	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.86	Too acid	1.00
		Leaching	0.45	Droughty	0.23
		Droughty	0.23		
HbmB:					
Hammonton-----------	80	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Too acid	0.22	Too acid	0.77
HboA:					
Hammonton-----------	85	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.86
		Filtering capacity	0.01	Filtering capacity	0.01
HbrB:					
Hammonton-----------	70	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Too acid	0.22	Too acid	0.77
Urban land----------	20	Not rated		Not rated	
KeoC:					
Keyport-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.86	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.86
		Slope	0.01	Slope	0.01

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
MakAt:					
Manahawkin, frequently flooded	85	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Too acid	0.62	Too acid	1.00
MamnAv:					
Mannington, very frequently flooded	55	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.41	Too acid	0.42
		Runoff	0.40	Slow water movement	0.31
Nanticoke, very frequently flooded	35	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Flooding	1.00
		Slow water movement	0.41	Too acid	0.42
		Runoff	0.40	Slow water movement	0.31
MasB:					
Marlton	90	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.86	Too acid	1.00
		Too acid	0.78	Depth to saturated zone	0.86
		Low adsorption	0.02		
MasC:					
Marlton	90	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Depth to saturated zone	0.86	Too acid	1.00
		Too acid	0.78	Depth to saturated zone	0.86
		Slope	0.01	Slope	0.01
MbrA:					
Matapeake	90	Somewhat limited		Very limited	
		Too acid	0.50	Too acid	0.99
MbrB:					
Matapeake	90	Somewhat limited		Very limited	
		Too acid	0.50	Too acid	0.99
MbrC:					
Matapeake	90	Somewhat limited		Very limited	
		Too acid	0.50	Too acid	0.99
		Slope	0.01	Slope	0.01

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
MbuA:					
Mattapex	95	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	0.86	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.86
MbuB:					
Mattapex	95	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	0.86	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.86
MbxB:					
Mattapex	60	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Depth to saturated zone	0.86	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.86
Urban land	35	Not rated		Not rated	
MutA:					
Muttontown	95	Somewhat limited		Very limited	
		Too acid	0.94	Too acid	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Filtering capacity	0.01	Filtering capacity	0.01
OTKA:					
Othello	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.94	Too acid	1.00
		Leaching	0.50	Filtering capacity	0.01
		Filtering capacity	0.01		
Fallsington	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.94	Too acid	1.00
		Leaching	0.70	Filtering capacity	0.01
		Filtering capacity	0.01		
OTMA:					
Othello	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.94	Too acid	1.00
		Leaching	0.50	Filtering capacity	0.01
		Filtering capacity	0.01		

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
OTMA:					
Fallsington	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.94	Too acid	1.00
		Leaching	0.70	Filtering capacity	0.01
		Filtering capacity	0.01		
Trussum	20	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slow water movement	1.00
		Too acid	0.78	Too acid	1.00
		Leaching	0.50		
PEEAR:					
Pedricktown, rarely flooded	45	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.94	Too acid	1.00
		Runoff	0.40	Flooding	0.40
Askecksy, rarely flooded	35	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.94	Too acid	1.00
		Leaching	0.90	Droughty	0.73
Mullica, rarely flooded	20	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too acid	0.94	Too acid	1.00
		Runoff	0.40	Flooding	0.40
PHG:					
Pits, sand and gravel	100	Not rated		Not rated	
PHM:					
Pits, clay	100	Not rated		Not rated	
SacA:					
Sassafras	80	Somewhat limited		Somewhat limited	
		Too acid	0.01	Too acid	0.03
		Filtering capacity	0.01	Filtering capacity	0.01

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste: Rating class and limiting features	Value	Application of sewage sludge: Rating class and limiting features	Value
SacB:					
Sassafras-----------	80	Somewhat limited		Somewhat limited	
		Too acid	0.01	Too acid	0.03
		Filtering capacity	0.01	Filtering capacity	0.01
SacC:					
Sassafras-----------	90	Somewhat limited		Somewhat limited	
		Too acid	0.01	Too acid	0.03
		Filtering capacity	0.01	Filtering capacity	0.01
SafA:					
Sassafras-----------	90	Somewhat limited		Very limited	
		Too acid	0.73	Too acid	1.00
SanA:					
Sassafras-----------	60	Somewhat limited		Somewhat limited	
		Too acid	0.01	Too acid	0.03
		Filtering capacity	0.01	Filtering capacity	0.01
Woodstown-----------	40	Somewhat limited		Very limited	
		Depth to saturated zone	0.86	Too acid	1.00
		Too acid	0.73	Depth to saturated zone	0.86
ShnA:					
Sharptown-----------	95	Somewhat limited		Very limited	
		Too acid	0.94	Too acid	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Slow water movement	0.41	Slow water movement	0.31
ShnB:					
Sharptown-----------	95	Somewhat limited		Very limited	
		Too acid	0.94	Too acid	1.00
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Slow water movement	0.41	Slow water movement	0.31
SwtB:					
Swedesboro----------	90	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.94	Too acid	1.00
SwtC:					
Swedesboro----------	90	Very limited		Very limited	
		Filtering capacity	1.00	Filtering capacity	1.00
		Too acid	0.94	Too acid	1.00
		Slope	0.01	Slope	0.01

Table 8a.--Agricultural Waste Management (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Application of manure and food-processing waste		Application of sewage sludge	
		Rating class and limiting features	Value	Rating class and limiting features	Value
TrkAv:					
Transquaking, very frequently flooded-	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Salinity	1.00
		Salinity	1.00	Flooding	1.00
		Runoff	0.40	Filtering capacity	0.01
UddfB:					
Udorthents, dredged fine materials-----	90	Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00
		Runoff	0.40	Too acid	0.77
		Too acid	0.22		
UdrB:					
Udorthents, refuse substratum---------	100	Somewhat limited		Not limited	
		Runoff	0.40		
UdsB:					
Udorthents, sandy substratum---------	100	Somewhat limited		Somewhat limited	
		Too acid	0.22	Too acid	0.77
		Droughty	0.01	Droughty	0.01
		Filtering capacity	0.01	Filtering capacity	0.01
WoeA:					
Woodstown-----------	80	Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86
		Too acid	0.01	Too acid	0.01
		Filtering capacity	0.01	Filtering capacity	0.01

Table 8b.--Agricultural Waste Management (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
AdkB:					
Adelphia	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	1.00
		Slow water movement	1.00	Depth to saturated zone	0.86
		Too acid	0.14	Too steep for surface application	0.08
AhmB:					
Alloway	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.86
		Depth to saturated zone	1.00	Too acid	0.77
				Slow water movement	0.21
				Too steep for surface application	0.08
				Filtering capacity	0.01
AhpB:					
Alloway	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.86
		Depth to saturated zone	1.00	Too acid	0.77
				Slow water movement	0.21
				Too steep for surface application	0.08
				Filtering capacity	0.01
AhpC:					
Alloway	90	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.86
		Slope	1.00	Too acid	0.77
				Too steep for sprinkler irrigation	0.22
				Slow water movement	0.21
AhrA:					
Alloway	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.86
		Depth to saturated zone	1.00	Too acid	0.77
				Slow water movement	0.21

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
AhrB:					
Alloway-------------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Depth to saturated zone	0.86
		Depth to saturated zone	1.00	Too acid	0.77
				Slow water movement	0.21
				Too steep for surface application	0.08
ApbAv:					
Appoquinimink, very frequently flooded-	60	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Salinity	1.00
		Slow water movement	1.00	Flooding	1.00
				Sodium content	0.99
Broadkill, very frequently flooded-	30	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Salinity	1.00
		Slow water movement	1.00	Flooding	1.00
				Filtering capacity	0.01
AucB:					
Aura----------------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.21
		Too acid	0.77	Slow water movement	0.21
				Filtering capacity	0.01
AugB:					
Aura----------------	85	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.77	Slow water movement	0.21
				Filtering capacity	0.01
AugC:					
Aura----------------	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Slope	0.88	Too steep for surface application	0.92
		Too acid	0.77	Slow water movement	0.21
				Too steep for sprinkler irrigation	0.06
				Filtering capacity	0.01

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
AuhB:					
Aura	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.42	Slow water movement	0.51
AuhC:					
Aura	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Slope	0.88	Too steep for surface application	0.92
		Too acid	0.42	Slow water movement	0.51
				Too steep for sprinkler irrigation	0.06
AupA:					
Aura	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.21
		Too acid	0.77	Slow water movement	0.21
				Filtering capacity	0.01
AupB:					
Aura	85	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.21
		Too acid	0.77	Slow water movement	0.21
				Filtering capacity	0.01
BEXAS:					
Berryland, occasionally flooded	50	Very limited		Very limited	
		Ponding	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Flooding	0.60	Depth to saturated zone	1.00
		Too acid	0.42	Too acid	1.00
				Flooding	0.60
Mullica, occasionally flooded	40	Very limited		Very limited	
		Ponding	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.61	Depth to saturated zone	1.00
		Flooding	0.60	Too acid	1.00
		Too acid	0.42	Flooding	0.60

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
ChsAt:					
Chicone, frequently flooded	95	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.91
		Too acid	0.77		
ChtA:					
Chillum	85	Very limited		Very limited	
		Slow water movement	1.00	Too acid	0.99
		Too acid	0.14		
ChtB:					
Chillum	85	Very limited		Very limited	
		Slow water movement	1.00	Too acid	0.99
		Too acid	0.14	Too steep for surface application	0.08
DocB:					
Downer	80	Somewhat limited		Very limited	
		Slow water movement	0.61	Filtering capacity	1.00
		Too acid	0.03	Too acid	0.03
DocC:					
Downer	85	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	0.61	Too steep for surface application	1.00
		Too acid	0.03	Too steep for sprinkler irrigation	0.22
				Too acid	0.03
DoeA:					
Downer	85	Somewhat limited		Somewhat limited	
		Slow water movement	0.61	Too acid	0.03
		Too acid	0.03	Filtering capacity	0.01
DoeB:					
Downer	90	Somewhat limited		Somewhat limited	
		Slow water movement	0.61	Too acid	0.03
		Too acid	0.03	Filtering capacity	0.01
DopB:					
Downer	55	Somewhat limited		Very limited	
		Slow water movement	0.61	Filtering capacity	1.00
		Too acid	0.03	Too acid	0.03

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
DopB:					
Galestown	35	Somewhat limited		Very limited	
		Too acid	0.14	Filtering capacity	1.00
				Too acid	1.00
DouB:					
Downer	60	Somewhat limited		Somewhat limited	
		Slow water movement	0.61	Too acid	0.42
		Too acid	0.03	Filtering capacity	0.01
Urban land	30	Not rated		Not rated	
EveB:					
Evesboro	80	Somewhat limited		Very limited	
		Too acid	0.03	Filtering capacity	1.00
				Too acid	1.00
				Low adsorption	0.38
EveC:					
Evesboro	95	Somewhat limited		Very limited	
		Slope	0.88	Filtering capacity	1.00
		Too acid	0.03	Too acid	1.00
				Too steep for surface application	0.92
				Low adsorption	0.38
				Too steep for sprinkler irrigation	0.06
FmhAt:					
Fluvaquents, loamy, frequently flooded	80	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	1.00
		Slow water movement	1.00	Too acid	0.42
				Filtering capacity	0.01
FodB:					
Fort Mott	85	Somewhat limited		Very limited	
		Slow water movement	0.61	Filtering capacity	1.00
		Too acid	0.14	Too acid	1.00
GabB:					
Galestown	85	Somewhat limited		Very limited	
		Too acid	0.14	Filtering capacity	1.00
				Too acid	1.00
				Low adsorption	0.01

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
GamB:					
Galloway	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	1.00
		Too acid	0.42	Depth to saturated zone	1.00
				Too acid	1.00
HbmB:					
Hammonton	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	1.00
		Slow water movement	0.31	Depth to saturated zone	0.86
		Too acid	0.14	Too acid	0.77
HboA:					
Hammonton	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	1.00
				Depth to saturated zone	0.86
		Slow water movement	0.31	Filtering capacity	0.01
		Too acid	0.14		
HbrB:					
Hammonton	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	1.00
		Slow water movement	0.31	Depth to saturated zone	0.86
		Too acid	0.14	Too acid	0.77
Urban land	20	Not rated		Not rated	
KeoC:					
Keyport	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
				Too steep for surface application	1.00
		Depth to saturated zone	1.00		
		Slope	1.00	Slow water movement	0.99
		Too acid	0.14		
				Depth to saturated zone	0.86
				Too steep for sprinkler irrigation	0.22
MakAt:					
Manahawkin, frequently flooded	85	Very limited		Very limited	
		Ponding	1.00	Filtering capacity	1.00
		Flooding	1.00		
		Depth to saturated zone	1.00	Ponding	1.00
				Depth to saturated zone	1.00
		Too acid	0.03		
				Flooding	1.00
				Too acid	1.00

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater		Slow rate treatment of wastewater	
		Rating class and limiting features	Value	Rating class and limiting features	Value
MamnAv:					
Mannington, very frequently flooded	55	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Too acid	0.42
				Slow water movement	0.21
Nanticoke, very frequently flooded	35	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Too acid	0.42
				Slow water movement	0.21
MasB:					
Marlton	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Depth to saturated zone	0.86	Slow water movement	0.96
				Depth to saturated zone	0.86
				Too steep for surface application	0.08
				Low adsorption	0.02
MasC:					
Marlton	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Slope	1.00	Too steep for surface application	1.00
		Depth to saturated zone	0.86	Slow water movement	0.96
		Too acid	0.21	Depth to saturated zone	0.86
				Too steep or sprinkler irrigation	0.22
MbrA:					
Matapeake	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	0.99
		Too acid	0.14		
MbrB:					
Matapeake	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	0.99
		Too acid	0.14	Too steep for surface application	0.08

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
MbrC:					
Matapeake	90	Very limited		Very limited	
		Slow water movement	1.00	Too steep for surface application	1.00
		Slope	1.00	Too acid	0.99
		Too acid	0.14	Too steep for sprinkler irrigation	0.22
MbuA:					
Mattapex	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14	Depth to saturated zone	0.86
MbuB:					
Mattapex	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14	Depth to saturated zone	0.86
				Too steep for surface application	0.08
MbxB:					
Mattapex	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Filtering capacity	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14	Depth to saturated zone	0.86
Urban land	35	Not rated		Not rated	
MutA:					
Muttontown	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	1.00
		Slow water movement	0.69	Depth to saturated zone	0.86
				Filtering capacity	0.01
OTKA:					
Othello	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.77	Filtering capacity	0.01
Fallsington	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.42	Filtering capacity	0.01

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
OTMA:					
Othello-------------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.77	Filtering capacity	0.01
Fallsington---------	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.42	Filtering capacity	0.01
Trussum-------------	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Too acid	1.00
		Too acid	0.21	Slow water movement	0.98
PEEAR:					
Pedricktown, rarely flooded-----------	45	Very limited		Very limited	
		Ponding	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	1.00	Depth to saturated zone	1.00
				Too acid	1.00
Askecksy, rarely flooded-----------	35	Very limited		Very limited	
		Ponding	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Too acid	0.77	Depth to saturated zone	1.00
				Too acid	1.00
Mullica, rarely flooded-----------	20	Very limited		Very limited	
		Ponding	1.00	Filtering capacity	1.00
		Depth to saturated zone	1.00	Ponding	1.00
		Slow water movement	0.61	Depth to saturated zone	1.00
		Too acid	0.42	Too acid	1.00
PHG:					
Pits, sand and gravel-------------	100	Not rated		Not rated	
PHM:					
Pits, clay----------	100	Not rated		Not rated	
SacA:					
Sassafras-----------	80	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.03
		Too acid	0.03	Filtering capacity	0.01

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
SacB:					
Sassafras-----------	80	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.03
		Too acid	0.03	Filtering capacity	0.01
SacC:					
Sassafras-----------	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Too steep for surface application	0.92
		Slope	0.88	Too steep for sprinkler irrigation	0.06
		Too acid	0.03	Too acid	0.03
				Filtering capacity	0.01
SafA:					
Sassafras-----------	90	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Too acid	0.14		
SanA:					
Sassafras-----------	60	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.03
		Too acid	0.03	Filtering capacity	0.01
Woodstown-----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Too acid	1.00
		Slow water movement	0.69	Depth to saturated zone	0.86
		Too acid	0.14		
ShnA:					
Sharptown-----------	95	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.86
				Slow water movement	0.21
ShnB:					
Sharptown-----------	95	Very limited		Very limited	
		Slow water movement	1.00	Too acid	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	0.86
				Slow water movement	0.21
				Too steep for surface application	0.08
SwtB:					
Swedesboro----------	90	Somewhat limited		Very limited	
		Slow water movement	0.31	Filtering capacity	1.00
				Too acid	1.00

Table 8b.--Agricultural Waste Management (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Rapid infiltration of wastewater: Rating class and limiting features	Value	Slow rate treatment of wastewater: Rating class and limiting features	Value
SwtC:					
Swedesboro	90	Very limited		Very limited	
		Slope	1.00	Filtering capacity	1.00
		Slow water movement	0.31	Too acid	1.00
				Too steep for surface application	1.00
				Too steep for sprinkler irrigation	0.22
TrkAv:					
Transquaking, very frequently flooded	90	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Salinity	1.00
				Flooding	1.00
				Filtering capacity	0.01
UddfB:					
Udorthents, dredged fine materials	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Slow water movement	0.96
				Too acid	0.77
				Too steep for surface application	0.08
UdrB:					
Udorthents, refuse substratum	100	Very limited		Somewhat limited	
		Slow water movement	1.00	Too steep for surface application	0.08
UdsB:					
Udorthents, sandy substratum	100	Very limited		Somewhat limited	
		Slow water movement	1.00	Too acid	0.77
				Filtering capacity	0.01
WoeA:					
Woodstown	80	Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.86
		Slow water movement	1.00	Too acid	0.01
				Filtering capacity	0.01

Table 9.--Forestland Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
AdkB:				
Adelphia	black oak	80	52	black walnut, northern red oak, sweetgum, yellow-poplar
	northern red oak	70	52	
	sweetgum	85	85	
	white oak	70	52	
	yellow-poplar	90	114	
AhmB:				
Alloway	American beech	80	57	loblolly pine, northern red oak, yellow-poplar
	northern red oak	80	57	
	yellow-poplar	90	86	
AhpB:				
Alloway	American beech	80	57	loblolly pine, northern red oak, yellow-poplar
	northern red oak	80	57	
	yellow-poplar	90	86	
AhpC:				
Alloway	American beech	80	57	loblolly pine, northern red oak, yellow-poplar
	northern red oak	80	57	
	yellow-poplar	90	86	
AhrA:				
Alloway	American beech	80	57	loblolly pine, northern red oak, yellow-poplar
	northern red oak	80	57	
	yellow-poplar	90	86	
AhrB:				
Alloway	American beech	80	57	loblolly pine, northern red oak, yellow-poplar
	northern red oak	80	57	
	yellow-poplar	90	86	
ApbAv:				
Appoquinimink, very frequently flooded	---	---	---	---
Broadkill, very frequently flooded	---	---	---	---
AucB:				
Aura	black oak	70	52	shortleaf pine, eastern white pine, black oak
	white oak	70	52	
	scarlet oak	70	52	
	chestnut oak	70	52	
	pitch pine	---	---	
AugB:				
Aura	black oak	70	52	shortleaf pine, eastern white pine, black oak
	white oak	70	52	
	scarlet oak	70	52	
	chestnut oak	70	52	
	pitch pine	---	---	
AugC:				
Aura	black oak	70	52	shortleaf pine, eastern white pine, black oak
	white oak	70	52	
	scarlet oak	70	52	
	chestnut oak	70	52	
	pitch pine	---	---	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
AuhB:				
Aura	black oak	70	52	Virginia pine
	scarlet oak	70	52	
	Virginia pine	70	109	
	white oak	70	52	
AuhC:				
Aura	black oak	70	52	Virginia pine
	scarlet oak	70	52	
	Virginia pine	70	109	
	white oak	70	52	
AupA:				
Aura	black oak	70	52	Virginia pine
	scarlet oak	70	52	
	Virginia pine	70	109	
	white oak	70	52	
AupB:				
Aura	black oak	70	52	shortleaf pine, eastern white pine, black oak
	white oak	70	52	
	scarlet oak	70	52	
	chestnut oak	---	---	
BEXAS:				
Berryland, occasionally flooded	pitch pine	60	---	pitch pine, red maple, Atlantic white cedar
	red maple	---	---	
	blackgum	---	---	
Mullica, occasionally flooded	sweetgum	80	100	sweetgum, yellow-poplar, red maple, Atlantic white cedar
	red maple	---	---	
	blackgum	---	---	
	pitch pine	---	---	
ChsAt:				
Chicone, frequently flooded	black willow	---	---	sweetgum, Atlantic white cedar, red maple, willow oak
	red maple	50	29	
	sweetgum	85	86	
ChtA:				
Chillum	northern red oak	80	62	eastern white pine, loblolly pine, yellow-poplar
	southern red oak	80	62	
	Virginia pine	70	114	
	white oak	80	62	
ChtB:				
Chillum	northern red oak	80	62	eastern white pine, loblolly pine, yellow-poplar
	southern red oak	80	62	
	Virginia pine	70	114	
	white oak	80	62	
DocB:				
Downer	black oak	70	52	shortleaf pine, eastern white pine, black oak, white oak
	white oak	70	52	
	scarlet oak	70	52	
	pitch pine	---	---	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
DocC:				
Downer	black oak	70	52	shortleaf pine, eastern white pine, black oak, white oak
	white oak	70	52	
	scarlet oak	70	52	
	pitch pine	---	---	
DoeA:				
Downer	black oak	70	52	shortleaf pine, eastern white pine, black oak, white oak
	white oak	70	52	
	scarlet oak	70	52	
	pitch pine	---	---	
DoeB:				
Downer	black oak	70	52	shortleaf pine, eastern white pine, black oak, white oak
	white oak	70	52	
	scarlet oak	70	52	
	pitch pine	---	---	
DopB:				
Downer	black oak	70	52	loblolly pine, Virginia pine
	scarlet oak	70	52	
	Virginia pine	75	115	
	white oak	70	52	
Galestown	shortleaf pine	70	110	loblolly pine, shortleaf pine, Virginia pine
	Virginia pine	70	109	
DouB:				
Downer	black oak	70	52	shortleaf pine, pin oak, scarlet oak, sugar maple, eastern white pine, yellow-poplar, flowering crabapple, flowering dogwood
	white oak	70	52	
	scarlet oak	70	52	
	pitch pine	---	---	
Urban land	---	---	---	---
EveB:				
Evesboro	pitch pine	60	---	shortleaf pine, pitch pine, white oak, Virginia pine
	chestnut oak	60	52	
	white oak	60	52	
	scarlet oak	---	---	
EveC:				
Evesboro	pitch pine	60	---	shortleaf pine, pitch pine, white oak, Virginia pine
	chestnut oak	60	52	
	white oak	60	52	
	scarlet oak	---	---	
FmhAt:				
Fluvaquents, loamy, frequently flooded	pin oak	70	84	eastern white pine, white spruce
	sweetgum	---	---	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
FodB:				
Fort Mott	black oak	70	52	Virginia pine
	pitch pine	---	---	
	shortleaf pine	70	110	
	Virginia pine	70	109	
	white oak	70	52	
GabB:				
Galestown	black oak	70	52	loblolly pine, shortleaf pine, Virginia pine
	shortleaf pine	70	110	
	Virginia pine	70	109	
GamB:				
Galloway	pin oak	70	84	eastern white pine, sweetgum, Virginia pine
	sweetgum	80	86	
	Virginia pine	70	109	
	white oak	70	52	
HbmB:				
Hammonton	white oak	70	52	shortleaf pine, eastern white pine, white oak, yellow-poplar
	black oak	70	52	
	pitch pine	70	114	
	red maple	---	---	
HboA:				
Hammonton	black oak	80	52	Virginia pine
	pitch pine	80	114	
	shortleaf pine	70	110	
	Virginia pine	70	109	
	white oak	80	52	
HbrB:				
Hammonton	white oak	80	62	willow oak, sugar maple, eastern white pine, yellow-poplar, American sycamore, flowering crabapple, flowering dogwood
	black oak	80	62	
	pitch pine	80	114	
	yellow-poplar	---	---	
	red maple	---	---	
Urban land	---	---	---	---
KeoC:				
Keyport	American beech	80	57	loblolly pine, northern red oak, yellow-poplar
	northern red oak	80	62	
	yellow-poplar	90	114	
MakAt:				
Manahawkin, frequently flooded	Atlantic white cedar	50	92	Atlantic white cedar, red maple
	red maple	75	43	
MamnAv:				
Mannington, very frequently flooded	---	---	---	---
Nanticoke, very frequently flooded	---	---	---	---

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
MasB:				
Marlton	pin oak	80	74	shortleaf pine
	shortleaf pine	---	---	
	southern red oak	---	---	
	sweetgum	80	86	
	Virginia pine	---	---	
	white ash	---	---	
	yellow-poplar	90	114	
MasC:				
Marlton	pin oak	80	74	shortleaf pine
	shortleaf pine	---	---	
	southern red oak	---	---	
	sweetgum	80	86	
	Virginia pine	---	---	
	white ash	---	---	
	yellow-poplar	90	114	
MbrA:				
Matapeake	Virginia pine	75	115	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	white oak	75	57	
	yellow-poplar	90	114	
MbrB:				
Matapeake	Virginia pine	75	115	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	white oak	75	57	
	yellow-poplar	90	114	
MbrC:				
Matapeake	Virginia pine	75	115	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	white oak	75	57	
	yellow-poplar	90	114	
MbuA:				
Mattapex	northern red oak	70	52	eastern white pine, loblolly pine, yellow-poplar
	sweetgum	80	86	
	Virginia pine	70	114	
	white oak	70	52	
MbuB:				
Mattapex	northern red oak	70	52	eastern white pine, loblolly pine, yellow-poplar
	sweetgum	80	86	
	Virginia pine	70	114	
	white oak	70	52	
MbxB:				
Mattapex	northern red oak	70	52	eastern white pine, loblolly pine, yellow-poplar
	sweetgum	80	86	
	Virginia pine	70	114	
	white oak	70	52	
Urban land	---	---	---	---

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
MutA:				
Muttontown	black oak	80	52	eastern white pine, sweetgum, yellow-poplar
	northern red oak	70	52	
	sweetgum	90	100	
	white oak	80	62	
	yellow-poplar	90	114	
OTKA:				
Othello	sweetgum	80	86	sweetgum, yellow-poplar, red maple
	red maple	50	29	
	blackgum	---	---	
Fallsington	sweetgum	80	86	sweetgum, yellow-poplar, red maple
	blackgum	---	---	
	red maple	---	---	
OTMA:				
Othello	red maple	50	29	loblolly pine
	sweetgum	80	86	
	white oak	80	62	
Fallsington	sweetgum	80	86	eastern white pine, loblolly pine, sweetgum, yellow-poplar
	white oak	80	62	
	willow oak	---	---	
Trussum	blackgum	---	---	loblolly pine
	red maple	---	---	
	southern red oak	---	---	
	sweetgum	80	86	
	willow oak	---	---	
PEEAR:				
Pedricktown, rarely flooded	sweetgum	80	86	sweetgum, yellow-poplar, red maple
	red maple	---	---	
	blackgum	---	---	
	black willow	---	---	
Askecksy, rarely flooded	sweetgum	80	86	sweetgum, yellow-poplar, red maple
	blackgum	---	---	
	red maple	---	---	
	yellow-poplar	---	---	
Mullica, rarely flooded	sweetgum	90	100	sweetgum, yellow-poplar, red maple, Atlantic white cedar
	red maple	---	---	
	blackgum	---	---	
	pitch pine	---	---	
PHG:				
Pits, sand and gravel	---	---	---	---
PHM:				
Pits, clay	---	---	---	---
SacA:				
Sassafras	black oak	70	52	shortleaf pine, eastern white pine, northern red oak, yellow-poplar
	white oak	70	52	
	scarlet oak	70	52	
	northern red oak	70	52	
	yellow-poplar	80	72	

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
SacB:				
Sassafras	black oak	70	52	shortleaf pine, eastern white pine, northern red oak, yellow-poplar
	white oak	70	52	
	scarlet oak	70	52	
	northern red oak	70	52	
	yellow-poplar	80	71	
SacC:				
Sassafras	black oak	70	52	shortleaf pine, eastern white pine, northern red oak, yellow-poplar
	white oak	70	52	
	scarlet oak	70	52	
	northern red oak	70	52	
	yellow-poplar	80	71	
SafA:				
Sassafras	Virginia pine	70	114	eastern white pine, loblolly pine, yellow-poplar
	white oak	70	52	
	yellow-poplar	80	71	
SanA:				
Sassafras	Virginia pine	70	114	eastern white pine, loblolly pine, yellow-poplar
	white oak	70	52	
	yellow-poplar	80	71	
Woodstown	northern red oak	70	52	eastern white pine, loblolly pine, yellow-poplar
	sweetgum	90	100	
	white oak	80	52	
	yellow-poplar	90	86	
ShnA:				
Sharptown	northern red oak	70	52	eastern white pine, loblolly pine, yellow-poplar
	sweetgum	80	86	
	Virginia pine	70	114	
	white oak	70	52	
ShnB:				
Sharptown	northern red oak	70	52	eastern white pine, loblolly pine, yellow-poplar
	sweetgum	80	86	
	Virginia pine	70	114	
	white oak	70	52	
SwtB:				
Swedesboro	black oak	70	52	loblolly pine, Virginia pine
	scarlet oak	70	52	
	Virginia pine	60	86	
	white oak	70	52	
SwtC:				
Swedesboro	black oak	70	52	loblolly pine, Virginia pine
	scarlet oak	70	52	
	Virginia pine	60	86	
	white oak	70	52	
TrkAv:				
Transquaking, very frequently flooded	---	---	---	---

Table 9.--Forestland Productivity--Continued

Map symbol and soil name	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Volume of wood fiber	Trees to manage
			cu ft/ac	
UddfB:				
Udorthents, dredged fine materials	---	---	---	---
UdrB:				
Udorthents, refuse substratum	---	---	---	---
UdsB:				
Udorthents, sandy substratum	---	---	---	---
WoeA:				
Woodstown	sweetgum	90	100	northern red oak, yellow-poplar, eastern white pine, sweetgum
	yellow-poplar	90	86	
	white oak	80	57	
	northern red oak	---	---	

Table 10a.--Recreational Development (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AdkB:							
Adelphia	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
AhmB:							
Alloway	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.50
						Gravel content	0.01
AhpB:							
Alloway	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.50
						Gravel content	0.01
AhpC:							
Alloway	90	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.01	Slope	0.01	Slow water movement	0.96
						Gravel content	0.01
AhrA:							
Alloway	90	Not limited		Not limited		Not limited	
AhrB:							
Alloway	90	Not limited		Not limited		Somewhat limited	
						Slope	0.50
ApbAv:							
Appoquinimink, very frequently flooded	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Salinity	1.00	Depth to saturated zone	1.00	Salinity	1.00
		Flooding	1.00	Salinity	1.00	Flooding	1.00
		Ponding	1.00	Sodium content	1.00	Ponding	1.00
		Sodium content	1.00	Flooding	0.60	Sodium content	1.00
Broadkill, very frequently flooded	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Salinity	1.00	Depth to saturated zone	1.00	Salinity	1.00
		Flooding	1.00	Salinity	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.60	Ponding	1.00
AucB:							
Aura	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.50	Too sandy	0.50	Too sandy	0.50
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
AugB:							
Aura----------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.21	Slow water movement	0.21	Gravel content	0.32
						Slow water movement	0.21
						Slope	0.12
AugC:							
Aura----------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	1.00
						Gravel content	0.32
						Slow water movement	0.21
AuhB:							
Aura----------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.51	Slow water movement	0.51	Gravel content	1.00
		Gravel content	0.01	Gravel content	0.01	Slow water movement	0.51
						Slope	0.12
AuhC:							
Aura----------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.51	Slow water movement	0.51	Slope	1.00
		Gravel content	0.01	Gravel content	0.01	Gravel content	1.00
						Slow water movement	0.51
AupA:							
Aura----------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
AupB:							
Aura----------------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
						Slope	0.12
BEXAS:							
Berryland, occasionally flooded-----------	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Too sandy	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Ponding	1.00	Too sandy	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Too sandy	1.00			Flooding	0.60
Mullica, occasionally flooded-----------	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00			Flooding	0.60
ChsAt:							
Chicone, frequently flooded-----------	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
ChtA:							
Chillum	85	Not limited		Not limited		Not limited	
ChtB:							
Chillum	85	Not limited		Not limited		Somewhat limited	
						Slope	0.50
DocB:							
Downer	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.50	Too sandy	0.50	Too sandy	0.50
						Slope	0.12
DocC:							
Downer	85	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.50	Too sandy	0.50	Slope	1.00
		Slope	0.01	Slope	0.01	Too sandy	0.50
DoeA:							
Downer	85	Not limited		Not limited		Not limited	
DoeB:							
Downer	90	Not limited		Not limited		Somewhat limited	
						Slope	0.12
DopB:							
Downer	55	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.50	Too sandy	0.50	Too sandy	0.50
						Slope	0.12
Galestown	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.81	Too sandy	0.81	Too sandy	0.81
						Gravel content	0.14
						Slope	0.12
DouB:							
Downer	60	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Urban land	30	Not rated		Not rated		Not rated	
EveB:							
Evesboro	80	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	0.12
EveC:							
Evesboro	95	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Slope	1.00
FmhAt:							
Fluvaquents, loamy, frequently flooded	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.40	Ponding	1.00
FodB:							
Fort Mott	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Too sandy	0.79
						Slope	0.12
						Gravel content	0.04

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
GabB:							
Galestown-----------	85	Very limited		Very limited		Very limited	
		Too sandy	1.00	Too sandy	1.00	Too sandy	1.00
						Gravel content	0.78
						Slope	0.12
GamB:							
Galloway------------	85	Very limited		Somewhat limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	0.94	Depth to saturated zone	1.00
		Too sandy	0.81	Too sandy	0.81	Too sandy	0.81
HbmB:							
Hammonton-----------	80	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.50	Too sandy	0.50	Too sandy	0.50
						Slope	0.12
HboA:							
Hammonton-----------	85	Not limited		Not limited		Somewhat limited	
						Gravel content	0.04
HbrB:							
Hammonton-----------	70	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.50	Too sandy	0.50	Too sandy	0.50
						Slope	0.12
Urban land----------	20	Not rated		Not rated		Not rated	
KeoC:							
Keyport-------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.99	Slow water movement	0.99	Slope	1.00
		Slope	0.01	Slope	0.01	Slow water movement	0.99
MakAt:							
Manahawkin, frequently flooded-	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Organic matter content	1.00
		Ponding	1.00	Organic matter content	1.00	Flooding	1.00
		Organic matter content	1.00	Flooding	0.40	Ponding	1.00
MamnAv:							
Mannington, very frequently flooded-	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.60	Ponding	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
Nanticoke, very frequently flooded-	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Ponding	1.00	Flooding	0.60	Ponding	1.00
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
MasB:							
Marlton-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.50
MasC:							
Marlton-------------	90	Somewhat limited		Somewhat limited		Very limited	
		Slow water movement	0.96	Slow water movement	0.96	Slope	1.00
		Slope	0.01	Slope	0.01	Slow water movement	0.96
MbrA:							
Matapeake-----------	90	Not limited		Not limited		Not limited	
MbrB:							
Matapeake-----------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.50
MbrC:							
Matapeake-----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.01	Slope	0.01	Slope	1.00
MbuA:							
Mattapex------------	95	Not limited		Not limited		Not limited	
MbuB:							
Mattapex------------	95	Not limited		Not limited		Somewhat limited	
						Slope	0.50
MbxB:							
Mattapex------------	60	Not limited		Not limited		Somewhat limited	
						Slope	0.12
Urban land----------	35	Not rated		Not rated		Not rated	
MutA:							
Muttontown----------	95	Not limited		Not limited		Somewhat limited	
						Gravel content	0.01
OTKA:							
Othello-------------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Fallsington---------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
OTMA:							
Othello-------------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Fallsington---------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Trussum-------------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
PEEAR:							
Pedricktown, rarely flooded-----------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00				
Askecksy, rarely flooded-----------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Too sandy	0.50	Too sandy	0.50
		Too sandy	0.50				
Mullica, rarely flooded-----------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00				
PHG:							
Pits, sand and gravel------------	100	Not rated		Not rated		Not rated	
PHM:							
Pits, clay----------	100	Not rated		Not rated		Not rated	
SacA:							
Sassafras-----------	80	Not limited		Not limited		Not limited	
SacB:							
Sassafras-----------	80	Not limited		Not limited		Somewhat limited	
						Slope	0.12
SacC:							
Sassafras-----------	90	Not limited		Not limited		Very limited	
						Slope	1.00
SafA:							
Sassafras-----------	90	Not limited		Not limited		Somewhat limited	
						Gravel content	0.68
SanA:							
Sassafras-----------	60	Not limited		Not limited		Not limited	
Woodstown-----------	40	Not limited		Not limited		Somewhat limited	
						Gravel content	0.56
ShnA:							
Sharptown-----------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
ShnB:							
Sharptown-----------	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.21	Slow water movement	0.21	Slope	0.50
						Slow water movement	0.21

Table 10a.--Recreational Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
SwtB:							
Swedesboro----------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.33	Too sandy	0.33	Too sandy	0.33
						Slope	0.12
SwtC:							
Swedesboro----------	90	Somewhat limited		Somewhat limited		Very limited	
		Too sandy	0.33	Too sandy	0.33	Slope	1.00
		Slope	0.01	Slope	0.01	Too sandy	0.33
TrkAv:							
Transquaking, very frequently flooded-	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Salinity	1.00	Depth to saturated zone	1.00	Organic matter content	1.00
		Flooding	1.00	Organic matter content	1.00	Salinity	1.00
		Ponding	1.00	Salinity	1.00	Flooding	1.00
		Organic matter content	1.00	Too clayey	1.00	Ponding	1.00
UddfB:							
Udorthents, dredged fine materials-----	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
						Slope	0.50
UdrB:							
Udorthents, refuse substratum---------	100	Not limited		Not limited		Somewhat limited	
						Slope	0.50
UdsB:							
Udorthents, sandy substratum---------	100	Not limited		Not limited		Somewhat limited	
						Slope	0.12
WoeA:							
Woodstown-----------	80	Not limited		Not limited		Not limited	

Table 10b.--Recreational Development (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AdkB:							
Adelphia	85	Not limited		Not limited		Not limited	
AhmB:							
Alloway	90	Not limited		Not limited		Not limited	
AhpB:							
Alloway	90	Not limited		Not limited		Not limited	
AhpC:							
Alloway	90	Not limited		Not limited		Somewhat limited	
						Slope	0.01
AhrA:							
Alloway	90	Not limited		Not limited		Not limited	
AhrB:							
Alloway	90	Not limited		Not limited		Not limited	
ApbAv:							
Appoquinimink, very frequently flooded	60	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.60	Flooding	0.60	Salinity	1.00
						Depth to saturated zone	1.00
						Sulfur content	1.00
Broadkill, very frequently flooded	30	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.60	Flooding	0.60	Salinity	1.00
						Depth to saturated zone	1.00
						Sulfur content	1.00
AucB:							
Aura	90	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.50	Too sandy	0.50		
AugB:							
Aura	85	Not limited		Not limited		Not limited	
AugC:							
Aura	90	Not limited		Not limited		Not limited	
AuhB:							
Aura	90	Not limited		Not limited		Somewhat limited	
						Gravel content	0.01
AuhC:							
Aura	90	Not limited		Not limited		Somewhat limited	
						Gravel content	0.01

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
AupA:							
Aura	85	Not limited		Not limited		Not limited	
AupB:							
Aura	85	Not limited		Not limited		Not limited	
BEXAS:							
Berryland, occasionally flooded	50	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Too sandy	1.00	Too sandy	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Ponding	1.00	Droughty	0.98
						Flooding	0.60
						Too sandy	0.50
Mullica, occasionally flooded	40	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
						Flooding	0.60
ChsAt:							
Chicone, frequently flooded	95	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
ChtA:							
Chillum	85	Not limited		Not limited		Not limited	
ChtB:							
Chillum	85	Not limited		Not limited		Not limited	
DocB:							
Downer	80	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.50	Too sandy	0.50		
DocC:							
Downer	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.50	Too sandy	0.50	Slope	0.01
DoeA:							
Downer	85	Not limited		Not limited		Not limited	
DoeB:							
Downer	90	Not limited		Not limited		Not limited	
DopB:							
Downer	55	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.50	Too sandy	0.50		
Galestown	35	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.81	Too sandy	0.81	Droughty	0.88

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
DouB:							
Downer	60	Not limited		Not limited		Not limited	
Urban land	30	Not rated		Not rated		Not rated	
EveB:							
Evesboro	80	Very limited		Very limited		Somewhat limited	
		Too sandy	1.00	Too sandy	1.00	Droughty	0.69
						Too sandy	0.50
EveC:							
Evesboro	95	Very limited		Very limited		Somewhat limited	
		Too sandy	1.00	Too sandy	1.00	Droughty	0.69
						Too sandy	0.50
FmhAt:							
Fluvaquents, loamy, frequently flooded	80	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
FodB:							
Fort Mott	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.79	Too sandy	0.79	Droughty	0.03
GabB:							
Galestown	85	Very limited		Very limited		Somewhat limited	
		Too sandy	1.00	Too sandy	1.00	Droughty	0.88
						Too sandy	0.50
GamB:							
Galloway	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Depth to saturated zone	0.86	Depth to saturated zone	0.86	Depth to saturated zone	0.94
		Too sandy	0.81	Too sandy	0.81	Droughty	0.13
HbmB:							
Hammonton	80	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.50	Too sandy	0.50		
HboA:							
Hammonton	85	Not limited		Not limited		Not limited	
HbrB:							
Hammonton	70	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.50	Too sandy	0.50		
Urban land	20	Not rated		Not rated		Not rated	
KeoC:							
Keyport	90	Not limited		Not limited		Somewhat limited	
						Slope	0.01

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
MakAt:							
Manahawkin, frequently flooded-	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Organic matter content	1.00	Organic matter content	1.00	Flooding	1.00
		Ponding	1.00	Ponding	1.00	Organic matter content	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
MamnAv:							
Mannington, very frequently flooded-	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.60	Flooding	0.60	Depth to saturated zone	1.00
Nanticoke, very frequently flooded-	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.60	Flooding	0.60	Depth to saturated zone	1.00
MasB:							
Marlton-------------	90	Not limited		Not limited		Not limited	
MasC:							
Marlton-------------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.01
MbrA:							
Matapeake-----------	90	Not limited		Not limited		Not limited	
MbrB:							
Matapeake-----------	90	Not limited		Not limited		Not limited	
MbrC:							
Matapeake-----------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.01
MbuA:							
Mattapex------------	95	Not limited		Not limited		Not limited	
MbuB:							
Mattapex------------	95	Not limited		Not limited		Not limited	
MbxB:							
Mattapex------------	60	Not limited		Not limited		Not limited	
Urban land----------	35	Not rated		Not rated		Not rated	
MutA:							
Muttontown----------	95	Not limited		Not limited		Not limited	
OTKA:							
Othello-------------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Value	Off-road motorcycle trails: Rating class and limiting features	Value	Golf fairways: Rating class and limiting features	Value
OTKA:							
Fallsington	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
OTMA:							
Othello	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Fallsington	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Trussum	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PEEAR:							
Pedricktown, rarely flooded	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
Askecksy, rarely flooded	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Too sandy	0.50	Too sandy	0.50	Droughty	0.90
Mullica, rarely flooded	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Depth to saturated zone	1.00
PHG:							
Pits, sand and gravel	100	Not rated		Not rated		Not rated	
PHM:							
Pits, clay	100	Not rated		Not rated		Not rated	
SacA:							
Sassafras	80	Not limited		Not limited		Not limited	
SacB:							
Sassafras	80	Not limited		Not limited		Not limited	
SacC:							
Sassafras	90	Not limited		Not limited		Not limited	
SafA:							
Sassafras	90	Not limited		Not limited		Not limited	
SanA:							
Sassafras	60	Not limited		Not limited		Not limited	
Woodstown	40	Not limited		Not limited		Not limited	

Table 10b.--Recreational Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf fairways: Rating class and limiting features	Golf fairways: Value
ShnA:							
Sharptown-----------	95	Not limited		Not limited		Not limited	
ShnB:							
Sharptown-----------	95	Not limited		Not limited		Not limited	
SwtB:							
Swedesboro----------	90	Somewhat limited		Somewhat limited		Not limited	
		Too sandy	0.33	Too sandy	0.33		
SwtC:							
Swedesboro----------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Too sandy	0.33	Too sandy	0.33	Slope	0.01
TrkAv:							
Transquaking, very frequently flooded-	90	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Ponding	1.00
						Flooding	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
		Ponding	1.00	Ponding	1.00	Salinity	1.00
		Too clayey	1.00	Too clayey	1.00	Depth to saturated zone	1.00
		Flooding	0.60	Flooding	0.60		
UddfB:							
Udorthents, dredged fine materials-----	90	Not limited		Not limited		Not limited	
UdrB:							
Udorthents, refuse substratum---------	100	Not limited		Not limited		Not limited	
UdsB:							
Udorthents, sandy substratum---------	100	Not limited		Not limited		Somewhat limited	
						Droughty	0.02
WoeA:							
Woodstown-----------	80	Not limited		Not limited		Not limited	

Table 11.--Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
AdkB:											
Adelphia	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Fair	Poor
AhmB:											
Alloway	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
AhpB:											
Alloway	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
AhpC:											
Alloway	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
AhrA:											
Alloway	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
AhrB:											
Alloway	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
ApbAv:											
Appoquinimink, very frequently flooded	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Broadkill, very frequently flooded	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
AucB:											
Aura	Fair	Good	Good	Fair	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
AugB:											
Aura	Fair	Good	Good	Fair	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
AugC:											
Aura	Fair	Good	Good	Fair	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
AuhB:											
Aura	Fair	Good	Good	Fair	Fair	Fair	Poor	Very poor	Good	Fair	Very poor

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
AuhC:											
Aura	Fair	Good	Good	Fair	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
AupA:											
Aura	Fair	Good	Good	Fair	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
AupB:											
Aura	Fair	Good	Good	Fair	Fair	Fair	Poor	Very poor	Good	Fair	Very poor
BEXAS:											
Berryland, occasionally flooded	Very poor	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
Mullica, occasionally flooded	Very poor	Poor	Poor	Poor	Poor	Poor	Good	Fair	Poor	Poor	Fair
ChsAt:											
Chicone, frequently flooded	Very poor	Poor	Poor	Poor	Poor	Poor	Good	Good	Poor	Fair	Good
ChtA:											
Chillum	Good	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
ChtB:											
Chillum	Good	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
DocB:											
Downer	Poor	Fair	Good	Good	Good	Good	Poor	Very poor	Fair	Good	Very poor
DocC:											
Downer	Poor	Fair	Good	Good	Good	Good	Poor	Very poor	Fair	Good	Very poor

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
DoeA:											
Downer	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
DoeB:											
Downer	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
DopB:											
Downer	Poor	Fair	Good	Good	Good	Good	Poor	Very poor	Fair	Good	Very poor
Galestown	Poor	Fair	Fair	Poor	Poor	Poor	Very poor	Very poor	Fair	Poor	Very poor
DouB:											
Downer	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Urban land	---	---	---	---	---	---	---	---	---	---	---
EveB:											
Evesboro	Poor	Poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
EveC:											
Evesboro	Poor	Poor	Poor	Poor	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
FmhAt:											
Fluvaquents, loamy, frequently flooded	Fair	Good	Good	Good	Good	Good	Fair	Poor	Good	Good	Poor
FodB:											
Fort Mott	Poor	Fair	Fair	Poor	Poor	Poor	Poor	Very poor	Fair	Poor	Very poor
GabB:											
Galestown	Poor	Poor	Fair	Poor	Poor	Poor	Very poor	Very poor	Poor	Poor	Very poor
GamB:											
Galloway	Fair	Fair	Good	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
HbmB:											
Hammonton	Poor	Fair	Good	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor
HboA:											
Hammonton	Fair	Good	Good	Fair	Fair	Fair	Poor	Poor	Good	Fair	Poor
HbrB:											
Hammonton	Poor	Fair	Good	Fair	Fair	Fair	Poor	Poor	Fair	Fair	Poor
Urban land	---	---	---	---	---	---	---	---	---	---	---
KeoC:											
Keyport	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
MakAt:											
Manahawkin, frequently flooded	Very poor	Poor	Poor	Poor	Poor	Poor	Good	Poor	Poor	Poor	Fair
MamnAv:											
Mannington, very frequently flooded	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
Nanticoke, very frequently flooded	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
MasB:											
Marlton	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
MasC:											
Marlton	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
MbrA:											
Matapeake	Good	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
MbrB:											
Matapeake	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
MbrC:											
Matapeake	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
MbuA:											
Mattapex	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
MbuB:											
Mattapex	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
MbxB:											
Mattapex	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Urban land	---	---	---	---	---	---	---	---	---	---	---
MutA:											
Muttontown	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
OTKA:											
Othello	Poor	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
Fallsington	Poor	Fair	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair
OTMA:											
Othello	Poor	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
Fallsington	Poor	Fair	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair
Trussum	Poor	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
PEEAR:											
Pedricktown, rarely flooded	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
Askecksy, rarely flooded	Poor	Fair	Good	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair
Mullica, rarely flooded	Very poor	Poor	Poor	Poor	Poor	Poor	Good	Fair	Poor	Poor	Fair
PHG:											
Pits, sand and gravel	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hard- wood trees	Conif- erous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
PHM:											
Pits, clay	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Fair	Poor
SacA:											
Sassafras	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
SacB:											
Sassafras	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
SacC:											
Sassafras	Fair	Good	Good	Good	Good	Good	Very poor	Very poor	Good	Good	Very poor
SafA:											
Sassafras	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
SanA:											
Sassafras	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
Woodstown	Fair	Good	Good	Good	Poor	Good	Poor	Very poor	Good	Good	Very poor
ShnA:											
Sharptown	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
ShnB:											
Sharptown	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
SwtB:											
Swedesboro	Poor	Fair	Good	Good	Good	Good	Poor	Very poor	Fair	Good	Very poor
SwtC:											
Swedesboro	Poor	Fair	Good	Good	Good	Good	Poor	Very poor	Fair	Good	Very poor

Table 11.--Wildlife Habitat--Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
TrkAv: Transquaking, very frequently flooded	Very poor	Very poor	Very poor	Very poor	Very poor	Very poor	Good	Good	Very poor	Very poor	Good
UddfB: Udorthents, dredged fine materials	---	---	---	---	---	---	---	---	---	---	---
UdrB: Udorthents, refuse substratum	---	---	---	---	---	---	---	---	---	---	---
UdsB: Udorthents, sandy substratum	---	---	---	---	---	---	---	---	---	---	---
WoeA: Woodstown	Fair	Good	Good	Good	Poor	Good	Poor	Very poor	Good	Good	Very poor

Table 12.--Hydric Soils

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria*
AdkB: Adelphia sandy loam, 2 to 5 percent slopes	Adelphia	85	Low hills	No	---
	Freehold	10	Low hills	No	---
	Shrewsbury	5	Depressions	Yes	2B3
AhmB: Alloway sandy loam, 2 to 5 percent slopes	Alloway	90	Ridges	No	---
	Sassafras	5	Knolls	No	---
	Woodstown	5	Drainageways	No	---
AhpB: Alloway loam, 2 to 5 percent slopes	Alloway	90	Ridges	No	---
	Sassafras	5	Flats, knolls, low hills	No	---
	Woodstown	5	Drainageways	No	---
AhpC: Alloway loam, 5 to 10 percent slopes	Alloway	90	Ridges	No	---
	Sassafras	5	Flats, knolls, low hills	No	---
	Woodstown	5	Drainageways	No	---
AhrA: Alloway silt loam, 0 to 2 percent slopes	Alloway	90	Ridges	No	---
	Trussum	10	Depressions	Yes	2B3
AhrB: Alloway silt loam, 2 to 5 percent slopes	Alloway	90	Ridges	No	---
	Trussum	10	Depressions	Yes	2B3
ApbAv: Appoquinimink-Broadkill complex, 0 to 1 percent slopes, very frequently flooded	Appoquinimink, very frequently flooded	60	Tidal marshes	Yes	2B3, 3
	Broadkill, very frequently flooded	30	Tidal marshes	Yes	2B3
	Transquaking, very frequently flooded	10	Tidal marshes	Yes	1
AucB: Aura loamy sand, 0 to 5 percent slopes	Aura	90	Low hills	No	---
	Sassafras	5	Knolls	No	---
	Woodstown	5	Drainageways	No	---
AugB: Aura sandy loam, 2 to 5 percent slopes	Aura	85	Low hills	No	---
	Downer	5	Low hills	No	---
	Sassafras	5	Knolls	No	---
	Woodstown	5	Drainageways	No	---
AugC: Aura sandy loam, 5 to 10 percent slopes	Aura	90	Low hills	No	---
	Downer	5	Low hills	No	---
	Sassafras	5	Knolls	No	---

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria*
AuhB---------------------------- Aura gravelly sandy loam, 2 to 5 percent slopes	Aura	90	Knolls, low	No	---
	Downer	5	Flats, knolls, low hills	No	---
	Sassafras	5	Flats, knolls	No	---
AuhC---------------------------- Aura gravelly sandy loam, 5 to 10 percent slopes	Aura	90	Knolls, low hills	No	---
	Downer	5	Flats, knolls, low hills	No	---
	Sassafras	5	Flats, knolls	No	---
AupA---------------------------- Aura loam, 0 to 2 percent slopes	Aura	85	Knolls, low hills	No	---
	Downer	5	Low hills	No	---
	Sassafras	5	Knolls	No	---
	Woodstown	5	Drainageways	No	---
AupB---------------------------- Aura loam, 2 to 5 percent slopes	Aura	85	Low hills	No	---
	Downer	5	Low hills	No	---
	Sassafras	5	Knolls	No	---
	Woodstown	5	Drainageways	No	---
BEXAS--------------------------- Berryland and Mullica soils, 0 to 2 percent slopes, occasionally flooded	Berryland, occasionally flooded	50	Depressions, drainageways, flats	Yes	2B3, 3
	Mullica, occasionally flooded	40	Depressions, drainageways, flood plains	Yes	2B3
	Atsion	5	Flats	Yes	2B3
	Manahawkin, frequently flooded	5	Flood plains	Yes	1, 3
ChsAt--------------------------- Chicone silt loam, 0 to 1 percent slopes, frequently flooded	Chicone, frequently flooded	95	Flood plains	Yes	2B3
	Manahawkin, frequently flooded	5	Flood plains	Yes	1, 3
ChtA---------------------------- Chillum silt loam, 0 to 2 percent slopes	Chillum	85	Ridges, terraces	No	---
	Matapeake	10	Low hills, ridges, terraces	No	---
	Mattapex	5	Flats, ridges, terraces	No	---

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria*
ChtB---------------------------- Chillum silt loam, 2 to 5 percent slopes	Chillum	85	Ridges, terraces	No	---
	Matapeake	10	Low hills, ridges, terraces	No	---
	Mattapex	5	Flats, hillslopes, terraces	No	---
DocB---------------------------- Downer loamy sand, 0 to 5 percent slopes	Downer	80	Knolls, low hills	No	---
	Atsion	5	Flats	Yes	2B3
	Evesboro	5	Dunes, low hills	No	---
	Hammonton	5	Depressions, flats	No	---
	Mullica, rarely flooded	5	Depressions, drainageways, flood plains	Yes	2B3
DocC---------------------------- Downer loamy sand, 5 to 10 percent slopes	Downer	85	Flats, knolls, low hills	No	---
	Evesboro	5	Dunes	No	---
	Hammonton	5	Flats	No	---
	Sassafras	5	Knolls	No	---
DoeA---------------------------- Downer sandy loam, 0 to 2 percent slopes	Downer	85	Knolls, low hills	No	---
	Mullica, rarely flooded	5	Depressions, drainageways, flood plains	Yes	2B3
	Sassafras	5	Knolls, low hills	No	---
	Woodstown	5	Drainageways, flats	No	---
DoeB---------------------------- Downer sandy loam, 2 to 5 percent slopes	Downer	90	Knolls, low hills	No	---
	Sassafras	5	Knolls, low hills	No	---
	Woodstown	5	Drainageways, flats	No	---
DopB---------------------------- Downer-Galestown complex, 0 to 5 percent slopes	Downer	55	Flats, knolls, low hills	No	---
	Galestown	35	Ridges, terraces	No	---
	Evesboro	5	Dunes, low hills	No	---
	Hammonton	5	Depressions, flats	No	---

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria*
DouB---------------------------- Downer-Urban land complex, 0 to 5 percent slopes	Downer	60	Knolls, low hills	No	---
	Urban land	30	Knolls, low hills	No	---
	Sassafras	5	Knolls, low hills	No	---
	Woodstown	5	Drainageways, flats	No	---
EveB---------------------------- Evesboro sand, 0 to 5 percent slopes	Evesboro	80	Low hills	No	---
	Atsion	5	Flats	Yes	2B3
	Downer	5	Knolls, low hills	No	---
	Lakehurst	5	Depressions, flats	No	---
	Mullica, rarely flooded	5	Depressions, drainageways, flood plains	Yes	2B3
EveC---------------------------- Evesboro sand, 5 to 10 percent slopes	Evesboro	95	Low hills	No	---
	Downer	5	Knolls, low hills	No	---
FmhAt--------------------------- Fluvaquents, loamy, 0 to 3 percent slopes, frequently flooded	Fluvaquents, loamy, frequently flooded	80	Flood plains	Yes	2B3
	Udifluvents, frequently flooded	10	Flood plains	No	---
FodB---------------------------- Fort Mott loamy sand, 0 to 5 percent slopes	Fort Mott	85	Ridges, terraces	No	---
	Galestown	10	Ridges, terraces	No	---
	Downer	5	Knolls, low hills	No	---
GabB---------------------------- Galestown sand, 0 to 5 percent slopes	Galestown	85	Ridges, terraces	No	---
	Aura	5	Low hills	No	---
	Downer	5	Low hills	No	---
	Galloway	5	Dunes, flats	No	---
GamB---------------------------- Galloway loamy sand, 0 to 5 percent slopes	Galloway	85	Dunes, flats	No	---
	Atsion	5	Drainageways, flats	Yes	2B3
	Downer	5	Knolls, low hills	No	---
	Mullica, rarely flooded	5	Depressions, drainageways, flood plains	Yes	2B3

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria*
HbmB---------------------------- Hammonton loamy sand, 0 to 5 percent slopes	Hammonton	80	Depressions, flats	No	---
	Atsion	5	Depressions	Yes	2B3
	Fallsington	5	Depressions, flats	Yes	2B3
	Glassboro	5	Drainageways, flats	No	---
	Mullica, rarely flooded	5	Depressions, drainageways, flood plains	Yes	2B3
HboA---------------------------- Hammonton sandy loam, 0 to 2 percent slopes	Hammonton	85	Depressions, flats	No	---
	Atsion, rarely flooded	5	Drainageways, flats	Yes	2B3
	Fallsington	5	Depressions, flats	Yes	2B3
	Mullica, rarely flooded	5	Depressions, drainageways, flood plains	Yes	2B3
HbrB---------------------------- Hammonton-Urban land complex, 0 to 2 percent slopes	Hammonton	70	Depressions, flats	No	---
	Urban land	20	Depressions, flats	No	---
	Downer	5	Knolls, low hills	No	---
	Glassboro	5	Drainageways, flats	No	---
KeoC---------------------------- Keyport loam, 5 to 10 percent slopes	Keyport	90	Flats, knolls	No	---
	Collington	5	Low hills	No	---
	Sassafras	5	Knolls	No	---
MakAt--------------------------- Manahawkin muck, 0 to 2 percent slopes, frequently flooded	Manahawkin, frequently flooded	85	Flood plains, swamps	Yes	1, 3
	Atsion	5	Flats	Yes	2B3
	Berryland, occasionally flooded	5	Depressions, drainageways, flats	Yes	2B3, 3
	Mullica, rarely flooded	5	Depressions, drainageways, flood plains	Yes	2B3

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria*
MamnAv-------------------------- Mannington-Nanticoke complex, 0 to 1 percent slopes, very frequently flooded	Mannington, very frequently flooded	55	Tidal marshes	Yes	2B3
	Nanticoke, very frequently flooded	35	Tidal marshes	Yes	2B3
	Udorthents	5	Tidal marshes	No	---
	Water	5	---	No	---
MasB---------------------------- Marlton silt loam, 2 to 5 percent slopes	Marlton	90	Ridges	No	---
	Alloway	5	Ridges	No	---
	Sharptown	5	Ridges, terraces	No	---
MasC---------------------------- Marlton silt loam, 5 to 10 percent slopes	Marlton	90	Ridges	No	---
	Alloway	5	Ridges	No	---
	Sharptown	5	Ridges, terraces	No	---
MbrA---------------------------- Matapeake silt loam, 0 to 2 percent slopes	Matapeake	90	Flats, ridges, terraces	No	---
	Chillum	5	Ridges, terraces	No	---
	Mattapex	5	Flats, ridges, terraces	No	---
MbrB---------------------------- Matapeake silt loam, 2 to 5 percent slopes	Matapeake	90	Flats, ridges, terraces	No	---
	Aura	5	Low hills	No	---
	Chillum	5	Ridges, terraces	No	---
MbrC---------------------------- Matapeake silt loam, 5 to 10 percent slopes	Matapeake	90	Flats, ridges, terraces	No	---
	Aura	5	Low hills	No	---
	Chillum	5	Ridges, terraces	No	---
MbuA---------------------------- Mattapex silt loam, 0 to 2 percent slopes	Mattapex	95	Flats, ridges, terraces	No	---
	Othello	5	Depressions	Yes	2B3
MbuB---------------------------- Mattapex silt loam, 2 to 5 percent slopes	Mattapex	95	Flats, terraces	No	---
	Othello	5	Depressions	Yes	2B3
MbxB---------------------------- Mattapex-Urban land complex, 0 to 5 percent slopes	Mattapex	60	Flats, terraces	No	---
	Urban land	35	Flats, terraces	No	---
	Othello	5	Depressions	Yes	2B3
MutA---------------------------- Muttontown sandy loam, 0 to 2 percent slopes	Muttontown	95	Depressions, flats, terraces	No	---
	Fallsington	5	Depressions	Yes	2B3

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria*
OTKA---------------------------- Othello and Fallsington soils, 0 to 2 percent slopes	Othello	55	Depressions	Yes	2B3
	Fallsington	45	Depressions, flats	Yes	2B3
OTMA---------------------------- Othello, Fallsington, and Trussum soils, 0 to 2 percent slopes	Othello	45	Depressions	Yes	2B3
	Fallsington	35	Depressions	Yes	2B3
	Trussum	20	Depressions	Yes	2B3
PEEAR--------------------------- Pedricktown, Askecksy, and Mullica soils, 0 to 2 percent slopes, rarely flooded	Pedricktown, rarely flooded	45	Depressions, flats, flood plains	Yes	2B3
	Askecksy, rarely flooded	35	Depressions, flood plains, stream terraces	Yes	2B2
	Mullica, rarely flooded	20	Depressions, drainageways, flood plains	Yes	2B3
PHG----------------------------- Pits, sand and gravel	Pits, sand and gravel	100	---	No	---
PHM----------------------------- Pits, clay	Pits, clay	100	---	No	---
SacA---------------------------- Sassafras sandy loam, 0 to 2 percent slopes	Sassafras	80	Knolls	No	---
	Aura	5	Low hills	No	---
	Downer	5	Low hills	No	---
	Fallsington	5	Depressions, flats	Yes	2B3
	Woodstown	5	Drainageways	No	---
SacB---------------------------- Sassafras sandy loam, 2 to 5 percent slopes	Sassafras	80	Knolls, low hills	No	---
	Aura	5	Knolls, low hills	No	---
	Downer	5	Knolls, low hills	No	---
	Fallsington	5	Depressions, flats	Yes	2B3
	Woodstown	5	Drainageways, flats	No	---
SacC---------------------------- Sassafras sandy loam, 5 to 10 percent slopes	Sassafras	90	Hillslopes, knolls	No	---
	Aura	5	Low hills	No	---
	Downer	5	Knolls, low hills	No	---

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria*
SafA: Sassafras loam, 0 to 2 percent slopes	Sassafras	90	Flats, knolls, low hills	No	---
	Fallsington	5	Depressions	Yes	2B3
	Woodstown	5	Depressions, flats	No	---
SanA: Sassafras-Woodstown complex, 0 to 2 percent slopes	Sassafras	60	Flats, knolls, low hills	No	---
	Woodstown	40	Depressions, flats	No	---
ShnA: Sharptown silt loam, 0 to 2 percent slopes	Sharptown	95	Ridges, terraces	No	---
	Othello	5	Depressions	Yes	2B3
ShnB: Sharptown silt loam, 2 to 5 percent slopes	Sharptown	95	Ridges, terraces	No	---
	Othello	5	Depressions	Yes	2B3
SwtB: Swedesboro loamy sand, 0 to 5 percent slopes	Swedesboro	90	Ridges, terraces	No	---
	Hammonton	5	Depressions, flats	No	---
	Sharptown	5	Ridges, terraces	No	---
SwtC: Swedesboro loamy sand, 5 to 10 percent slopes	Swedesboro	90	Ridges, terraces	No	---
	Hammonton	5	Depressions, flats	No	---
	Sharptown	5	Ridges, terraces	No	---
TrkAv: Transquaking mucky peat, 0 to 1 percent slopes, very frequently flooded	Transquaking, very frequently flooded	90	Tidal marshes	Yes	1
	Appoquinimink, very frequently flooded	5	Tidal marshes	Yes	2B3, 3
	Broadkill, very frequently flooded	5	Tidal marshes	Yes	2B3
UddfB: Udorthents, dredged fine material, 0 to 8 percent slopes	Udorthents, dredged fine materials	90	Depressions	No	---
	Urban land	5	Depressions	No	---
	Water	5	---	No	---
UdrB: Udorthents, refuse substratum, 0 to 8 percent slopes	Udorthents, refuse substratum	100	Low hills	No	---
UdsB: Udorthents, sandy substratum, 0 to 8 percent slopes	Udorthents, sandy substratum	100	Low hills	No	---
UR: Urban land	Urban land	95	Low hills	No	---
	Udorthents	5	Low hills	No	---

Table 12.--Hydric Soils--Continued

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria*
WATER---------------------------- Water	Water	100	---	No	---
WoeA----------------------------- Woodstown sandy loam, 0 to 2 percent slopes	Woodstown	90	Depressions, flats, terraces	No	---
	Fallsington	5	Depressions	Yes	2B3
	Sassafras	5	Knolls	No	---

* Explanation of hydric criteria codes:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
   A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
   B. are poorly drained or very poorly drained and have either:
      1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
      2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
      3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

Table 13a.--Building Site Development (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AdkB:							
Adelphia	85	Not limited		Very limited		Not limited	
				Depth to saturated zone	0.99		
AhmB:							
Alloway	90	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
AhpB:							
Alloway	90	Somewhat limited		Very limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
AhpC:							
Alloway	90	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Slope	1.00
		Slope	0.01	Shrink-swell	0.50	Shrink-swell	0.50
				Slope	0.01		
AhrA:							
Alloway	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
AhrB:							
Alloway	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
ApbAv:							
Appoquinimink, very frequently flooded	60	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	0.50	Organic matter content	1.00	Shrink-swell	0.50
Broadkill, very frequently flooded	30	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
AucB:							
Aura	90	Not limited		Not limited		Not limited	

Table 13a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
AugB:							
Aura----------------	85	Not limited		Not limited		Not limited	
AugC:							
Aura----------------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
AuhB:							
Aura----------------	90	Not limited		Not limited		Not limited	
AuhC:							
Aura----------------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
AupA:							
Aura----------------	85	Not limited		Not limited		Not limited	
AupB:							
Aura----------------	85	Not limited		Not limited		Not limited	
BEXAS:							
Berryland, occasionally flooded-----------	50	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Mullica, occasionally flooded-----------	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
ChsAt:							
Chicone, frequently flooded------------	95	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00			Organic matter content	1.00
ChtA:							
Chillum-------------	85	Not limited		Not limited		Not limited	
ChtB:							
Chillum-------------	85	Not limited		Not limited		Not limited	
DocB:							
Downer--------------	80	Not limited		Not limited		Not limited	
DocC:							
Downer--------------	85	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.01	Slope	0.01	Slope	1.00
DoeA:							
Downer--------------	85	Not limited		Not limited		Not limited	

Table 13a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
DoeB:							
Downer	90	Not limited		Not limited		Not limited	
DopB:							
Downer	55	Not limited		Not limited		Not limited	
Galestown	35	Not limited		Not limited		Not limited	
DouB:							
Downer	60	Not limited		Not limited		Not limited	
Urban land	30	Not rated		Not rated		Not rated	
EveB:							
Evesboro	80	Not limited		Not limited		Not limited	
EveC:							
Evesboro	95	Not limited		Not limited		Somewhat limited	
						Slope	0.88
FmhAt:							
Fluvaquents, loamy, frequently flooded	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
FodB:							
Fort Mott	85	Not limited		Not limited		Not limited	
GabB:							
Galestown	85	Not limited		Not limited		Not limited	
GamB:							
Galloway	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
HbmB:							
Hammonton	80	Not limited		Very limited		Not limited	
				Depth to saturated zone	0.99		
HboA:							
Hammonton	85	Not limited		Very limited		Not limited	
				Depth to saturated zone	0.99		
HbrB:							
Hammonton	70	Not limited		Very limited		Not limited	
				Depth to saturated zone	0.99		
Urban land	20	Not rated		Not rated		Not rated	
KeoC:							
Keyport	90	Somewhat limited		Very limited		Very limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Slope	1.00
		Slope	0.01	Shrink-swell	0.50	Shrink-swell	0.50
				Slope	0.01		

Table 13a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
MakAt:							
Manahawkin, frequently flooded	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00			Organic matter content	1.00
MamnAv:							
Mannington, very frequently flooded	55	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Nanticoke, very frequently flooded	35	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
MasB:							
Marlton	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
MasC:							
Marlton	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.01	Depth to saturated zone	0.99	Slope	1.00
				Slope	0.01		
MbrA:							
Matapeake	90	Not limited		Not limited		Not limited	
MbrB:							
Matapeake	90	Not limited		Not limited		Not limited	
MbrC:							
Matapeake	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.01	Slope	0.01	Slope	1.00
MbuA:							
Mattapex	95	Not limited		Very limited		Not limited	
				Depth to saturated zone	0.99		
MbuB:							
Mattapex	95	Not limited		Very limited		Not limited	
				Depth to saturated zone	0.99		
MbxB:							
Mattapex	60	Not limited		Very limited		Not limited	
				Depth to saturated zone	0.99		
Urban land	35	Not rated		Not rated		Not rated	

Table 13a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
MutA:							
Muttontown----------	95	Not limited		Very limited		Not limited	
				Depth to saturated zone	0.99		
OTKA:							
Othello-------------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Fallsington---------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
OTMA:							
Othello-------------	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Fallsington---------	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Trussum-------------	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Shrink-swell	1.00		
PEEAR:							
Pedricktown, rarely flooded-----------	45	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Askecksy, rarely flooded-----------	35	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Mullica, rarely flooded-----------	20	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
PHG:							
Pits, sand and gravel-------------	100	Not rated		Not rated		Not rated	
PHM:							
Pits, clay----------	100	Not rated		Not rated		Not rated	
SacA:							
Sassafras-----------	80	Not limited		Not limited		Not limited	

Table 13a.--Building Site Development (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
SacB:							
Sassafras-----------	80	Not limited		Not limited		Not limited	
SacC:							
Sassafras-----------	90	Not limited		Not limited		Somewhat limited	
						Slope	0.88
SafA:							
Sassafras-----------	90	Not limited		Not limited		Not limited	
SanA:							
Sassafras-----------	60	Not limited		Not limited		Not limited	
Woodstown-----------	40	Not limited		Very limited		Not limited	
				Depth to saturated zone	0.99		
ShnA:							
Sharptown-----------	95	Not limited		Very limited		Not limited	
				Depth to saturated zone	0.99		
ShnB:							
Sharptown-----------	95	Not limited		Very limited		Not limited	
				Depth to saturated zone	0.99		
SwtB:							
Swedesboro----------	90	Not limited		Not limited		Not limited	
SwtC:							
Swedesboro----------	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.01	Slope	0.01	Slope	1.00
TrkAv:							
Transquaking, very frequently flooded-	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Organic matter content	1.00	Organic matter content	1.00	Organic matter content	1.00
UddfB:							
Udorthents, dredged fine materials-----	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50
UdrB:							
Udorthents, refuse substratum---------	100	Not limited		Not limited		Not limited	
UdsB:							
Udorthents, sandy substratum---------	100	Not limited		Not limited		Not limited	
WoeA:							
Woodstown-----------	80	Not limited		Very limited		Not limited	
				Depth to saturated zone	0.99		

Table 13b.--Building Site Development (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
AdkB:							
Adelphia	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
AhmB:							
Alloway	90	Very limited		Very limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Too clayey	0.28		
		Frost action	0.50	Cutbanks cave	0.10		
AhpB:							
Alloway	90	Very limited		Very limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Too clayey	0.28		
		Frost action	0.50	Cutbanks cave	0.10		
AhpC:							
Alloway	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	0.99	Slope	0.01
		Shrink-swell	0.50	Too clayey	0.28		
		Frost action	0.50	Cutbanks cave	0.10		
		Slope	0.01	Slope	0.01		
AhrA:							
Alloway	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Frost action	0.50	Too clayey	0.03		
AhrB:							
Alloway	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Frost action	0.50	Too clayey	0.03		
ApbAv:							
Appoquinimink, very frequently flooded	60	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	1.00	Flooding	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Salinity	1.00
		Flooding	1.00	Organic matter content	1.00	Depth to saturated zone	1.00
		Low strength	1.00			Sulfur content	1.00
Broadkill, very frequently flooded	30	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	1.00	Flooding	1.00
		Frost action	1.00	Depth to saturated zone	1.00	Salinity	1.00
		Flooding	1.00	Organic matter content	1.00	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10	Sulfur content	1.00

Table 13b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
AucB:							
Aura	90	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
AugB:							
Aura	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
AugC:							
Aura	90	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
AuhB:							
Aura	90	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.01
AuhC:							
Aura	90	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Gravel content	0.01
AupA:							
Aura	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
AupB:							
Aura	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
BEXAS:							
Berryland, occasionally flooded	50	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	1.00	Droughty	0.98
		Frost action	0.50	Flooding	0.60	Flooding	0.60
						Too sandy	0.50
Mullica, occasionally flooded	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00	Flooding	0.60
		Flooding	1.00	Flooding	0.60		
ChsAt:							
Chicone, frequently flooded	95	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Cutbanks cave	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Organic matter content	1.00		
				Flooding	0.80		
ChtA:							
Chillum	85	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				

Table 13b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
ChtB:							
Chillum-------------	85	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
DocB:							
Downer--------------	80	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
DocC:							
Downer--------------	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Slope	0.01
		Slope	0.01	Slope	0.01		
DoeA:							
Downer--------------	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
DoeB:							
Downer--------------	90	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
DopB:							
Downer--------------	55	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Galestown-----------	35	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.88
DouB:							
Downer--------------	60	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Urban land----------	30	Not rated		Not rated		Not rated	
EveB:							
Evesboro------------	80	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.69
						Too sandy	0.50
EveC:							
Evesboro------------	95	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.69
						Too sandy	0.50
FmhAt:							
Fluvaquents, loamy, frequently flooded-	80	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Frost action	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Flooding	1.00	Cutbanks cave	0.10		
FodB:							
Fort Mott-----------	85	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.03
GabB:							
Galestown-----------	85	Not limited		Very limited		Somewhat limited	
				Cutbanks cave	1.00	Droughty	0.88
						Too sandy	0.50

Table 13b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
GamB:							
Galloway	85	Somewhat limited		Very limited		Somewhat limited	
		Depth to saturated zone	0.94	Depth to saturated zone	1.00	Depth to saturated zone	0.94
				Cutbanks cave	1.00	Droughty	0.13
HbmB:							
Hammonton	80	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
HboA:							
Hammonton	85	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
HbrB:							
Hammonton	70	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
Urban land	20	Not rated		Not rated		Not rated	
KeoC:							
Keyport	90	Very limited		Very limited		Somewhat limited	
		Low strength	1.00	Depth to saturated zone	0.99	Slope	0.01
		Shrink-swell	0.50				
		Frost action	0.50	Cutbanks cave	0.10		
		Slope	0.01	Slope	0.01		
MakAt:							
Manahawkin, frequently flooded	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Flooding	1.00
						Organic matter content	1.00
		Flooding	1.00	Cutbanks cave	1.00		
		Frost action	0.50	Organic matter content	1.00	Depth to saturated zone	1.00
				Flooding	0.80		
MamnAv:							
Mannington, very frequently flooded	55	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00				
		Flooding	1.00	Organic matter content	1.00		
		Low strength	1.00				
				Cutbanks cave	0.10		
Nanticoke, very frequently flooded	35	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00				
		Flooding	1.00	Cutbanks cave	0.10		
		Low strength	1.00				

Table 13b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MasB:							
Marlton-------------	90	Very limited		Very limited		Not limited	
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	0.50	Depth to saturated zone	0.99		
		Frost action	0.50	Cutbanks cave	0.10		
MasC:							
Marlton-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Low strength	0.78	Depth to saturated zone	0.99	Slope	0.01
		Frost action	0.50	Cutbanks cave	0.10		
		Slope	0.01	Slope	0.01		
MbrA:							
Matapeake-----------	90	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
MbrB:							
Matapeake-----------	90	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
MbrC:							
Matapeake-----------	90	Very limited		Very limited		Somewhat limited	
		Frost action	1.00	Cutbanks cave	1.00	Slope	0.01
		Low strength	1.00	Slope	0.01		
		Slope	0.01				
MbuA:							
Mattapex------------	95	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00	Depth to saturated zone	0.99		
MbuB:							
Mattapex------------	95	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00	Depth to saturated zone	0.99		
MbxB:							
Mattapex------------	60	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
Urban land----------	35	Not rated		Not rated		Not rated	
MutA:							
Muttontown----------	95	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Depth to saturated zone	0.99		
				Cutbanks cave	0.10		
OTKA:							
Othello-------------	55	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				

Table 13b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
OTKA:							
Fallsington	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
OTMA:							
Othello	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Low strength	1.00				
Fallsington	35	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
Trussum	20	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Too clayey	0.32		
		Low strength	0.78	Cutbanks cave	0.10		
PEEAR:							
Pedricktown, rarely flooded	45	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Flooding	0.40				
Askecksy, rarely flooded	35	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Cutbanks cave	1.00	Droughty	0.90
Mullica, rarely flooded	20	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Frost action	1.00	Cutbanks cave	1.00		
		Flooding	0.40				
PHG:							
Pits, sand and gravel	100	Not rated		Not rated		Not rated	
PHM:							
Pits, clay	100	Not rated		Not rated		Not rated	
SacA:							
Sassafras	80	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
SacB:							
Sassafras	80	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		

Table 13b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
SacC:							
Sassafras----------	90	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
SafA:							
Sassafras----------	90	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
SanA:							
Sassafras----------	60	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
Woodstown----------	40	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		
ShnA:							
Sharptown----------	95	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Low strength	1.00				
				Cutbanks cave	0.10		
ShnB:							
Sharptown----------	95	Very limited		Very limited		Not limited	
		Frost action	1.00	Depth to saturated zone	0.99		
		Low strength	1.00				
				Cutbanks cave	0.10		
SwtB:							
Swedesboro---------	90	Somewhat limited		Very limited		Not limited	
		Frost action	0.50	Cutbanks cave	1.00		
SwtC:							
Swedesboro---------	90	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Slope	0.01
		Slope	0.01	Slope	0.01		
TrkAv:							
Transquaking, very frequently flooded-	90	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Flooding	1.00	Flooding	1.00
				Depth to saturated zone	1.00	Organic matter content	1.00
		Subsidence	1.00				
		Frost action	1.00	Organic matter content	1.00	Salinity	1.00
		Flooding	1.00			Depth to saturated zone	1.00
				Too clayey	0.12		
UddfB:							
Udorthents, dredged fine materials-----	90	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.28		
		Shrink-swell	0.50	Cutbanks cave	0.10		
UdrB:							
Udorthents, refuse substratum---------	100	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Cutbanks cave	0.10		

Table 13b.--Building Site Development (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
UdsB:							
Udorthents, sandy substratum---------	100	Somewhat limited		Very limited		Somewhat limited	
		Frost action	0.50	Cutbanks cave	1.00	Droughty	0.02
WoeA:							
Woodstown-----------	80	Very limited		Very limited		Not limited	
		Frost action	1.00	Cutbanks cave	1.00		
				Depth to saturated zone	0.99		

Table 14.--Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AdkB:					
Adelphia------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72	Slope	0.32
AhmB:					
Alloway-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.32
				Seepage	0.28
AhpB:					
Alloway-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	0.32
				Seepage	0.28
AhpC:					
Alloway-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.01	Seepage	0.28
AhrA:					
Alloway-------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.54
AhrB:					
Alloway-------------	90	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.54
				Slope	0.32
ApbAv:					
Appoquinimink, very frequently flooded-	60	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72	Organic matter content	1.00

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
ApbAv:					
Broadkill, very frequently flooded	30	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72	Organic matter content	1.00
AucB:					
Aura	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	1.00		
AugB:					
Aura	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	1.00	Slope	0.08
AugC:					
Aura	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	1.00	Slope	1.00
AuhB:					
Aura	90	Very limited		Very limited	
		Slow water movement	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
AuhC:					
Aura	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
AupA:					
Aura	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	1.00		
AupB:					
Aura	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	1.00	Slope	0.08

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
BEXAS:					
Berryland, occasionally flooded	50	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Filtering capacity	1.00		
Mullica, occasionally flooded	40	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
				Organic matter content	1.00
ChsAt:					
Chicone, frequently flooded	95	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72	Organic matter content	1.00
ChtA:					
Chillum	85	Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	0.53
		Slow water movement	0.72		
ChtB:					
Chillum	85	Very limited		Somewhat limited	
		Seepage, bottom layer	1.00	Seepage	0.53
				Slope	0.32
		Slow water movement	0.72		
DocB:					
Downer	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
DocC:					
Downer	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Slope	0.01		

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
DoeA:					
Downer	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
DoeB:					
Downer	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
DopB:					
Downer	55	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
Galestown	35	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
DouB:					
Downer	60	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
Urban land	30	Not rated		Not rated	
EveB:					
Evesboro	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Filtering capacity	1.00	Slope	0.08
EveC:					
Evesboro	95	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Filtering capacity	1.00	Slope	1.00
FmhAt:					
Fluvaquents, loamy, frequently flooded	80	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.50		
FodB:					
Fort Mott	85	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
GabB:					
Galestown-----------	85	Very limited		Very limited	
		Filtering capacity	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Slope	0.08
GamB:					
Galloway------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00		
HbmB:					
Hammonton-----------	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
				Slope	0.08
HboA:					
Hammonton-----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
HbrB:					
Hammonton-----------	70	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
				Slope	0.08
Urban land----------	20	Not rated		Not rated	
KeoC:					
Keyport-------------	90	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Slope	1.00
		Slope	0.01	Seepage	0.28
MakAt:					
Manahawkin, frequently flooded-	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Filtering capacity	1.00	Organic matter content	1.00

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
MamnAv:					
Mannington, very frequently flooded	55	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	1.00
				Organic matter content	1.00
Nanticoke, very frequently flooded	35	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Organic matter content	1.00
MasB:					
Marlton	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.32
		Depth to saturated zone	1.00	Seepage	0.21
				Depth to saturated zone	0.19
MasC:					
Marlton	90	Very limited		Very limited	
		Slow water movement	1.00	Slope	1.00
		Depth to saturated zone	1.00	Seepage	0.21
		Slope	0.01	Depth to saturated zone	0.19
MbrA:					
Matapeake	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72		
MbrB:					
Matapeake	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72	Slope	0.32
MbrC:					
Matapeake	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Slope	1.00
		Slow water movement	0.72	Seepage	1.00
		Slope	0.01		

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
MbuA:					
Mattapex	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.72		
MbuB:					
Mattapex	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.72	Slope	0.32
MbxB:					
Mattapex	60	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
				Slope	0.08
Urban land	35	Not rated		Not rated	
MutA:					
Muttontown	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
OTKA:					
Othello	55	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.72	Organic matter content	1.00
Fallsington	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.72	Organic matter content	1.00
OTMA:					
Othello	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.72	Organic matter content	1.00

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
OTMA:					
Fallsington	35	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.72	Organic matter content	1.00
Trussum	20	Very limited		Very limited	
		Slow water movement	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Seepage	0.53
PEEAR:					
Pedricktown, rarely flooded	45	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.72	Organic matter content	1.00
		Flooding	0.40	Flooding	0.40
Askecksy, rarely flooded	35	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Filtering capacity	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Flooding	0.40
		Flooding	0.40		
Mullica, rarely flooded	20	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Flooding	0.40	Organic matter content	1.00
				Flooding	0.40
PHG:					
Pits, sand and gravel	100	Not rated		Not rated	
PHM:					
Pits, clay	100	Not rated		Not rated	
SacA:					
Sassafras	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72		

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
SacB:					
Sassafras-----------	80	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72	Slope	0.08
SacC:					
Sassafras-----------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Slow water movement	0.72		
SafA:					
Sassafras-----------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72		
SanA:					
Sassafras-----------	60	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Slow water movement	0.72		
Woodstown-----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
ShnA:					
Sharptown-----------	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Seepage	0.28
ShnB:					
Sharptown-----------	95	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Slope	0.32
				Seepage	0.28
SwtB:					
Swedesboro----------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	0.08
SwtC:					
Swedesboro----------	90	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
				Slope	1.00
		Slope	0.01		

Table 14.--Sanitary Facilities--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
TrkAv:					
Transquaking, very frequently flooded	90	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Organic matter content	1.00
		Subsidence	1.00	Seepage	1.00
		Slow water movement	0.50	Depth to saturated zone	1.00
UddfB:					
Udorthents, dredged fine materials	90	Very limited		Somewhat limited	
		Slow water movement	1.00	Slope	0.32
UdrB:					
Udorthents, refuse substratum	100	Somewhat limited		Somewhat limited	
		Slow water movement	0.46	Seepage	0.53
				Slope	0.32
UdsB:					
Udorthents, sandy substratum	100	Very limited		Very limited	
		Seepage, bottom layer	1.00	Seepage	1.00
		Filtering capacity	1.00	Slope	0.08
WoeA:					
Woodstown	80	Very limited		Very limited	
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.72		

Table 15.--Disposal Fields

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value the greater the limitation. The system type listed under "Type of installation permitted in New Jersey" was derived from NJAC 7: 9A standards--see footnotes at end of table. The system type is generally the most desirable for the given soil and site conditions. Where no system type is listed, the soil is unsuitable as a site for all available systems. See text for further explanation of ratings, suitability classes, and system types used in this table.)

Map symbol and soil name	Pct. of map unit	Disposal field NJAC 7: 9A		Type of installation permitted in NJ*		NJ suitability class** (for each limitation most restrictive class is listed)	
		Rating class and limiting features	Value	Limiting features and permitted system type	Value	Suitability class and limiting feature	Value
AdkB:							
Adelphia	85	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
AhmB:							
Alloway	90	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIISr	1.00
						IIWr	0.83
		Depth to apparent zone of saturation	0.83	M	0.83		
AhpB:							
Alloway	90	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIISr	1.00
						IIWr	0.83
		Depth to apparent zone of saturation	0.83	M	0.83		
AhpC:							
Alloway	90	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIISr	1.00
						IIWr	0.83
		Depth to apparent zone of saturation	0.83	M	0.83		
AhrA:							
Alloway	90	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
AhrB:							
Alloway	90	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
ApbAv:							
Appoquinimink, very frequently flooded	60	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		

Table 15.--Disposal Fields--Continued

Map symbol and soil name	Pct. of map unit	Disposal field NJAC 7: 9A: Rating class and limiting features	Value	Type of installation permitted in NJ*: Limiting features and permitted system type	Value	NJ suitability class** (for each limitation most restrictive class is listed): Suitability class and limiting feature	Value
ApbAv:							
Broadkill, very frequently flooded----------	30	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
AucB:							
Aura--------------	90	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIIHr	1.00
						IIISr	1.00
		Restrictive horizon	1.00	SRB, SRE	1.00		
AugB:							
Aura--------------	85	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIIHr	1.00
						IIISr	1.00
		Restrictive horizon	1.00	SRB, SRE	1.00		
AugC:							
Aura--------------	90	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIIHr	1.00
						IIISr	1.00
		Restrictive horizon	1.00	SRB, SRE	1.00		
AuhB:							
Aura--------------	90	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIIHr	1.00
						IIISr	1.00
		Restrictive horizon	1.00	SRB, SRE	1.00		
AuhC:							
Aura--------------	90	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIIHr	1.00
						IIISr	1.00
		Restrictive horizon	1.00	SRB, SRE	1.00		
AupA:							
Aura--------------	85	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIIHr	1.00
						IIISr	1.00
		Restrictive horizon	1.00	SRB, SRE	1.00		
AupB:							
Aura--------------	85	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIIHr	1.00
						IIISr	1.00
		Restrictive horizon	1.00	SRB, SRE	1.00		

Table 15.--Disposal Fields--Continued

Map symbol and soil name	Pct. of map unit	Disposal field NJAC 7: 9A		Type of installation permitted in NJ*		NJ suitability class** (for each limitation most restrictive class is listed)	
		Rating class and limiting features	Value	Limiting features and permitted system type	Value	Suitability class and limiting feature	Value
BEXAS:							
Berryland, occasionally flooded	50	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
Mullica, occasionally flooded	40	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
ChsAt:							
Chicone, frequently flooded	95	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
ChtA:							
Chillum	85	Not limited		C		I	
ChtB:							
Chillum	85	Not limited		C		I	
DocB:							
Downer	80	Not limited		C		I	
DocC:							
Downer	85	Not limited		C		I	
DoeA:							
Downer	85	Not limited		C		I	
DoeB:							
Downer	90	Not limited		C		I	
DopB:							
Downer	55	Not limited		C		I	
Galestown	35	Not limited		C		I	

Table 15.--Disposal Fields--Continued

Map symbol and soil name	Pct. of map unit	Disposal field NJAC 7: 9A: Rating class and limiting features	Value	Type of installation permitted in NJ*: Limiting features and permitted system type	Value	NJ suitability class** (for each limitation most restrictive class is listed): Suitability class and limiting feature	Value
DouB:							
Downer	60	Not limited		C		I	
Urban land	30	Not rated		Not rated		Not rated	
EveB:							
Evesboro	80	Not limited		C		I	
EveC:							
Evesboro	95	Not limited		C		I	
FmhAt:							
Fluvaquents, loamy, frequently flooded	80	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
FodB:							
Fort Mott	85	Not limited		C		I	
GabB:							
Galestown	85	Not limited		C		I	
GamB:							
Galloway	85	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	IIIWr	1.00
HbmB:							
Hammonton	80	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
HboA:							
Hammonton	85	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
HbrB:							
Hammonton	70	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
Urban land	20	Not rated		Not rated		Not rated	

Table 15.--Disposal Fields--Continued

Map symbol and soil name	Pct. of map unit	Disposal field NJAC 7: 9A: Rating class and limiting features	Value	Type of installation permitted in NJ*: Limiting features and permitted system type	Value	NJ suitability class** (for each limitation most restrictive class is listed): Suitability class and limiting feature	Value
KeoC:							
Keyport	90	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIISr	1.00
						IIWr	0.83
		Depth to apparent zone of saturation	0.83	M	0.83		
MakAt:							
Manahawkin, frequently flooded	85	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
MamnAv:							
Mannington, very frequently flooded	55	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
Nanticoke, very frequently flooded	35	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
MasB:							
Marlton	90	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIIHr	1.00
						IIISr	1.00
		Restrictive horizon	1.00	SRB, SRE	1.00	IIWp	0.83
				C drain	0.83		
		Depth to perched zone of saturation	0.83				

Table 15.--Disposal Fields--Continued

Map symbol and soil name	Pct. of map unit	Disposal field NJAC 7: 9A		Type of installation permitted in NJ*		NJ suitability class** (for each limitation most restrictive class is listed)	
		Rating class and limiting features	Value	Limiting features and permitted system type	Value	Suitability class and limiting feature	Value
MasC:							
Marlton-----------	90	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIIHr	1.00
						IIISr	1.00
		Restrictive horizon	1.00	SRB, SRE	1.00	IIWp	0.83
				C drain	0.83		
		Depth to perched zone of saturation	0.83				
MbrA:							
Matapeake---------	90	Not limited		C		I	
MbrB:							
Matapeake---------	90	Not limited		C		I	
MbrC:							
Matapeake---------	90	Not limited		C		I	
MbuA:							
Mattapex----------	95	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
MbuB:							
Mattapex----------	95	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
MbxB:							
Mattapex----------	60	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
Urban land--------	35	Not rated		Not rated		Not rated	
MutA:							
Muttontown--------	95	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
OTKA:							
Othello-----------	55	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	IIIWr	1.00
						Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
Fallsington-------	45	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	IIIWr	1.00
						Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		

Table 15.--Disposal Fields--Continued

Map symbol and soil name	Pct. of map unit	Disposal field NJAC 7: 9A		Type of installation permitted in NJ*		NJ suitability class** (for each limitation most restrictive class is listed)	
		Rating class and limiting features	Value	Limiting features and permitted system type	Value	Suitability class and limiting feature	Value
OTMA:							
Othello-----------	45	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	IIIWr	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00
Fallsington-------	35	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	IIIWr	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00
Trussum-----------	20	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	IIIWr	1.00
						IIISr	1.00
		Restrictive substratum	1.00	Restrictive substratum	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
PEEAR:							
Pedricktown, rarely flooded---	45	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
Askecksy, rarely flooded----------	35	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
Mullica, rarely flooded----------	20	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
PHG:							
Pits, sand and gravel-----------	100	Not rated		Not rated		Not rated	

Table 15.--Disposal Fields--Continued

Map symbol and soil name	Pct. of map unit	Disposal field NJAC 7: 9A: Rating class and limiting features	Disposal field NJAC 7: 9A: Value	Type of installation permitted in NJ*: Limiting features and permitted system type	Type of installation permitted in NJ*: Value	NJ suitability class** (for each limitation most restrictive class is listed): Suitability class and limiting feature	NJ suitability class**: Value
PHM:							
Pits, clay	100	Not rated		Not rated		Not rated	
SacA:							
Sassafras	80	Not limited		C		I	
SacB:							
Sassafras	80	Not limited		C		I	
SacC:							
Sassafras	90	Not limited		C		I	
SafA:							
Sassafras	90	Not limited		C		I	
SanA:							
Sassafras	60	Not limited		C		I	
Woodstown	40	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
ShnA:							
Sharptown	95	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
ShnB:							
Sharptown	95	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83
SwtB:							
Swedesboro	90	Not limited		C		I	
SwtC:							
Swedesboro	90	Not limited		C		I	
TrkAv:							
Transquaking, very frequently flooded	90	Very limited					
		Depth to apparent zone of saturation	1.00	Depth to apparent zone of saturation	1.00	Not permitted Flooding	1.00
						IIIWr	1.00
		Not permitted Flooding	1.00	Not permitted Flooding	1.00	Not permitted Hydric soil	1.00
		Not permitted Hydric soil	1.00	Not permitted Hydric soil	1.00		
UddfB:							
Udorthents, dredged fine materials	90	Very limited					
		Restrictive substratum	1.00	Restrictive substratum	1.00	IIISr	1.00

Table 15.--Disposal Fields--Continued

Map symbol and soil name	Pct. of map unit	Disposal field NJAC 7: 9A		Type of installation permitted in NJ*		NJ suitability class** (for each limitation most restrictive class is listed)	
		Rating class and limiting features	Value	Limiting features and permitted system type	Value	Suitability class and limiting feature	Value
UdrB:							
Udorthents, refuse substratum-------	100	Not limited		C		I	
UdsB:							
Udorthents, sandy substratum-------	100	Not limited		C		I	
WoeA:							
Woodstown---------	80	Somewhat limited					
		Depth to apparent zone of saturation	0.83	M	0.83	IIWr	0.83

* Type of disposal field installation (see text for further explanation):

C = conventional installation
C drain = interceptor drain or other means of removing the perched zone of saturation
SRB = soil replacement, bottom-lined installation
SRE = soil replacement, fill enclosed installation
M = mound installation

** For further explanation of the NJ suitability classes (IIHr, IIIWr, etc.), refer to NJAC 7: 9A, "Standards for Individual Subsurface Sewage Disposal Systems." These classes are briefly described in the text.

Table 16a.--Construction Materials (Part 1)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
AdkB:					
Adelphia	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.10
AhmB:					
Alloway	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
AhpB:					
Alloway	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
AhpC:					
Alloway	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
AhrA:					
Alloway	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
AhrB:					
Alloway	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
ApbAv:					
Appoquinimink, very frequently flooded	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Broadkill, very frequently flooded	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
AucB:					
Aura	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.13
AugB:					
Aura	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.13
AugC:					
Aura	90	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.13

Table 16a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
AuhB:					
Aura----------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.64
AuhC:					
Aura----------------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.64
AupA:					
Aura----------------	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.13
AupB:					
Aura----------------	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.13
BEXAS:					
Berryland, occasionally flooded------------	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.30
		Thickest layer	0.00	Thickest layer	0.47
Mullica, occasionally flooded------------	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.08
ChsAt:					
Chicone, frequently flooded------------	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.47
ChtA:					
Chillum-------------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.64
ChtB:					
Chillum-------------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.64
DocB:					
Downer--------------	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.64
DocC:					
Downer--------------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.64
DoeA:					
Downer--------------	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.64

Table 16a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
DoeB:					
Downer	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.64
DopB:					
Downer	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.64
Galestown	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.08
		Thickest layer	0.00	Thickest layer	0.10
DouB:					
Downer	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.64
Urban land	30	Not rated		Not rated	
EveB:					
Evesboro	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.14
		Thickest layer	0.00	Thickest layer	0.47
EveC:					
Evesboro	95	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.10
		Thickest layer	0.00	Thickest layer	0.47
FmhAt:					
Fluvaquents, loamy, frequently flooded	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
FodB:					
Fort Mott	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.10
		Thickest layer	0.00	Thickest layer	0.10
GabB:					
Galestown	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.36
GamB:					
Galloway	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.16
		Thickest layer	0.00	Bottom layer	0.42
HbmB:					
Hammonton	80	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.47
HboA:					
Hammonton	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.38

Table 16a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
HbrB:					
Hammonton-----------	70	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.47
Urban land----------	20	Not rated		Not rated	
KeoC:					
Keyport-------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MakAt:					
Manahawkin, frequently flooded-	85	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.47
MamnAv:					
Mannington, very frequently flooded-	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Nanticoke, very frequently flooded-	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MasB:					
Marlton-------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MasC:					
Marlton-------------	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
MbrA:					
Matapeake-----------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.64
MbrB:					
Matapeake-----------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.64
MbrC:					
Matapeake-----------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.10
		Thickest layer	0.00	Bottom layer	0.64
MbuA:					
Mattapex------------	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07
MbuB:					
Mattapex------------	95	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.58

Table 16a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Potential source of gravel: Value	Potential source of sand: Rating class	Potential source of sand: Value
MbxB:					
Mattapex------------	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.58
Urban land----------	35	Not rated		Not rated	
MutA:					
Muttontown----------	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
OTKA:					
Othello-------------	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.47
Fallsington---------	45	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.24
		Thickest layer	0.00	Thickest layer	0.24
OTMA:					
Othello-------------	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.47
Fallsington---------	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.24
		Thickest layer	0.00	Thickest layer	0.24
Trussum-------------	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
PEEAR:					
Pedricktown, rarely flooded------------	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.44
Askecksy, rarely flooded------------	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.47
		Thickest layer	0.00	Thickest layer	0.47
Mullica, rarely flooded------------	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.08
PHG:					
Pits, sand and gravel-------------	100	Not rated		Not rated	
PHM:					
Pits, clay----------	100	Not rated		Not rated	
SacA:					
Sassafras-----------	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.24
		Thickest layer	0.00	Thickest layer	0.24

Table 16a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
SacB:					
Sassafras-----------	80	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.24
		Thickest layer	0.00	Thickest layer	0.24
SacC:					
Sassafras-----------	90	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.24
		Thickest layer	0.00	Thickest layer	0.24
SafA:					
Sassafras-----------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.07
SanA:					
Sassafras-----------	60	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.24
		Thickest layer	0.00	Thickest layer	0.24
Woodstown-----------	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.10
ShnA:					
Sharptown-----------	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
ShnB:					
Sharptown-----------	95	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SwtB:					
Swedesboro----------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.79
SwtC:					
Swedesboro----------	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.79
TrkAv:					
Transquaking, very frequently flooded-	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
		Organic matter content	0.00	Organic matter content	0.00
UddfB:					
Udorthents, dredged fine materials-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
UdrB:					
Udorthents, refuse substratum---------	100	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

Table 16a.--Construction Materials (Part 1)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
UdsB:					
Udorthents, sandy substratum---------	100	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.86
WoeA:					
Woodstown-----------	80	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.00	Bottom layer	0.10

Table 16b.--Construction Materials (Part 2)

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
AdkB:							
Adelphia	85	Poor		Fair		Fair	
		Organic matter content low	0.00	Wetness depth	0.89	Too acid	0.59
		Too acid	0.12			Wetness depth	0.89
		Water erosion	0.90				
AhmB:							
Alloway	90	Poor		Poor		Poor	
		Organic matter content low	0.00	Low strength	0.00	Too clayey	0.00
		Too clayey	0.00	Wetness depth	0.89	Wetness depth	0.89
		Too acid	0.68	Shrink-swell	0.94	Rock fragments	0.92
		Water erosion	0.90				
AhpB:							
Alloway	90	Poor		Poor		Poor	
		Organic matter content low	0.00	Low strength	0.00	Too clayey	0.00
		Too clayey	0.00	Wetness depth	0.89	Wetness depth	0.89
		Too acid	0.68	Shrink-swell	0.94	Rock fragments	0.92
		Water erosion	0.90				
AhpC:							
Alloway	90	Poor		Poor		Poor	
		Organic matter content low	0.00	Low strength	0.00	Too clayey	0.00
		Too clayey	0.00	Wetness depth	0.89	Wetness depth	0.89
		Too acid	0.68	Shrink-swell	0.94	Rock fragments	0.92
		Water erosion	0.90				
AhrA:							
Alloway	90	Poor		Poor		Fair	
		Organic matter content low	0.00	Low strength	0.00	Wetness depth	0.89
		Too acid	0.68	Shrink-swell	0.89		
		Water erosion	0.90	Wetness depth	0.89		
AhrB:							
Alloway	90	Poor		Poor		Fair	
		Organic matter content low	0.00	Low strength	0.00	Wetness depth	0.89
		Too acid	0.68	Shrink-swell	0.89		
		Water erosion	0.90	Wetness depth	0.89		
ApbAv:							
Appoquinimink, very frequently flooded	60	Poor		Poor		Poor	
		Salinity	0.00	Wetness depth	0.00	Wetness depth	0.00
		Sodium content	0.00			Salinity	0.00
						Sodium content	0.10
Broadkill, very frequently flooded	30	Poor		Poor		Poor	
		Salinity	0.00	Wetness depth	0.00	Wetness depth	0.00
						Salinity	0.00

Table 16b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
AucB:							
Aura----------------	90	Poor		Good		Fair	
		Wind erosion	0.00			Too acid	0.12
		Too acid	0.00			Rock fragments	0.82
		Organic matter content low	0.02			Hard to reclaim (rock fragments)	0.95
AugB:							
Aura----------------	85	Poor		Good		Poor	
		Too acid	0.00			Rock fragments	0.00
		Organic matter content low	0.02			Too acid	0.68
						Hard to reclaim (rock fragments)	0.95
AugC:							
Aura----------------	90	Poor		Good		Poor	
		Too acid	0.00			Rock fragments	0.00
		Organic matter content low	0.02			Too acid	0.68
						Hard to reclaim (rock fragments)	0.95
AuhB:							
Aura----------------	90	Fair		Good		Poor	
		Too acid	0.03			Rock fragments	0.00
		Organic matter content low	0.08			Too acid	0.32
						Hard to reclaim (rock fragments)	0.39
AuhC:							
Aura----------------	90	Fair		Good		Poor	
		Too acid	0.03			Rock fragments	0.00
		Organic matter content low	0.08			Too acid	0.32
						Hard to reclaim (rock fragments)	0.39
AupA:							
Aura----------------	85	Poor		Good		Poor	
		Too acid	0.00			Rock fragments	0.00
		Organic matter content low	0.02			Too acid	0.68
						Hard to reclaim (rock fragments)	0.95
AupB:							
Aura----------------	85	Poor		Good		Poor	
		Too acid	0.00			Rock fragments	0.00
		Organic matter content low	0.02			Too acid	0.68
						Hard to reclaim (rock fragments)	0.95
BEXAS:							
Berryland, occasionally flooded------------	50	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.00			Too sandy	0.00
		Too sandy	0.00			Too acid	0.76
		Too acid	0.03				
		Droughty	0.91				

Table 16b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
BEXAS:							
Mullica, occasionally flooded	40	Poor		Poor		Poor	
		Organic matter content low	0.00	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.00			Hard to reclaim (rock fragments)	0.26
						Too acid	0.76
ChsAt:							
Chicone, frequently flooded	95	Poor		Poor		Poor	
		Too acid	0.00	Wetness depth	0.00	Wetness depth	0.00
						Too acid	0.98
ChtA:							
Chillum	85	Fair		Good		Fair	
		Too acid	0.12			Too acid	0.88
		Organic matter content low	0.12				
		Water erosion	0.90				
ChtB:							
Chillum	85	Fair		Good		Fair	
		Too acid	0.12			Too acid	0.88
		Organic matter content low	0.12				
		Water erosion	0.90				
DocB:							
Downer	80	Poor		Good		Good	
		Wind erosion	0.00				
		Organic matter content low	0.00				
		Too acid	0.20				
DocC:							
Downer	85	Poor		Good		Good	
		Wind erosion	0.00				
		Organic matter content low	0.00				
		Too acid	0.20				
DoeA:							
Downer	85	Poor		Good		Good	
		Organic matter content low	0.00				
		Too acid	0.20				
DoeB:							
Downer	90	Poor		Good		Good	
		Organic matter content low	0.00				
		Too acid	0.20				
DopB:							
Downer	55	Poor		Good		Good	
		Wind erosion	0.00				
		Organic matter content low	0.00				
		Too acid	0.20				

Table 16b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
DopB:							
Galestown-----------	35	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.01
		Too sandy	0.01			Too acid	0.59
		Too acid	0.12			Hard to reclaim (rock fragments)	0.92
		Organic matter content low	0.12				
		Droughty	0.49				
DouB:							
Downer--------------	60	Poor		Good		Good	
		Organic matter content low	0.00				
		Too acid	0.20				
Urban land----------	30	Not rated		Not rated		Not rated	
EveB:							
Evesboro------------	80	Poor		Good		Poor	
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content low	0.00			Too acid	0.76
		Too sandy	0.00				
		Too acid	0.50				
		Droughty	0.98				
EveC:							
Evesboro------------	95	Poor		Good		Poor	
		Wind erosion	0.00			Too sandy	0.00
		Organic matter content low	0.00			Too acid	0.76
		Too sandy	0.00				
		Too acid	0.50				
		Droughty	0.98				
FmhAt:							
Fluvaquents, loamy, frequently flooded-	80	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.04	Wetness depth	0.04
		Too acid	0.84				
		Water erosion	0.90				
FodB:							
Fort Mott-----------	85	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.02
		Too sandy	0.02			Too acid	0.59
		Too acid	0.12			Rock fragments	0.98
GabB:							
Galestown-----------	85	Poor		Good		Fair	
		Wind erosion	0.00			Too sandy	0.01
		Too sandy	0.01			Too acid	0.59
		Droughty	0.12				
		Organic matter content low	0.12				
		Too acid	0.50				

Table 16b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
GamB:							
Galloway------------	85	Poor		Fair		Fair	
		Wind erosion	0.00	Wetness depth	0.04	Too sandy	0.01
		Too sandy	0.01			Wetness depth	0.04
		Too acid	0.03			Too acid	0.32
		Organic matter content low	0.05				
		Droughty	0.77				
HbmB:							
Hammonton-----------	80	Poor		Fair		Fair	
		Wind erosion	0.00	Wetness depth	0.89	Too acid	0.59
		Organic matter content low	0.00			Wetness depth	0.89
		Too acid	0.50				
HboA:							
Hammonton-----------	85	Fair		Fair		Fair	
		Organic matter content low	0.12	Wetness depth	0.89	Too acid	0.88
		Too acid	0.50			Wetness depth	0.89
						Rock fragments	0.99
HbrB:							
Hammonton-----------	70	Poor		Fair		Fair	
		Wind erosion	0.00	Wetness depth	0.89	Too acid	0.59
		Organic matter content low	0.00			Wetness depth	0.89
		Too acid	0.50				
Urban land----------	20	Not rated		Not rated		Not rated	
KeoC:							
Keyport-------------	90	Fair		Poor		Fair	
		Organic matter content low	0.12	Low strength	0.00	Too clayey	0.10
				Wetness depth	0.89	Too acid	0.88
		Too clayey	0.18	Shrink-swell	0.93	Wetness depth	0.89
		Too acid	0.50				
		Water erosion	0.90				
MakAt:							
Manahawkin, frequently flooded-	85	Poor		Poor		Poor	
		Wind erosion	0.00	Wetness depth	0.00	Wetness depth	0.00
		Too acid	0.20			Organic matter content high	0.00
		Organic matter content low	0.88			Too acid	0.76
MamnAv:							
Mannington, very frequently flooded-	55	Fair		Poor		Poor	
		Too acid	0.84	Wetness depth	0.00	Wetness depth	0.00
				Low strength	0.00		
Nanticoke, very frequently flooded-	35	Fair		Poor		Poor	
		Too acid	0.84	Wetness depth	0.00	Wetness depth	0.00
		Water erosion	0.99	Low strength	0.00		

Table 16b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
MasB:							
Marlton-------------	90	Poor		Fair		Poor	
		Too clayey	0.00	Wetness depth	0.89	Too clayey	0.00
		Too acid	0.08	Shrink-swell	0.98	Rock fragments	0.88
		Organic matter content low	0.12			Too acid	0.88
						Wetness depth	0.89
		Water erosion	0.90				
MasC:							
Marlton-------------	90	Fair		Fair		Fair	
		Too acid	0.08	Wetness depth	0.89	Too clayey	0.07
		Too clayey	0.12			Rock fragments	0.88
		Organic matter content low	0.12			Too acid	0.88
						Wetness depth	0.89
		Water erosion	0.90				
MbrA:							
Matapeake-----------	90	Fair		Good		Fair	
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12				
		Water erosion	0.68				
MbrB:							
Matapeake-----------	90	Fair		Good		Fair	
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12				
		Water erosion	0.68				
MbrC:							
Matapeake-----------	90	Fair		Good		Fair	
		Too acid	0.12			Too acid	0.59
		Organic matter content low	0.12				
		Water erosion	0.68				
MbuA:							
Mattapex------------	95	Fair		Fair		Fair	
		Too acid	0.12	Wetness depth	0.89	Too clayey	0.53
		Organic matter content low	0.12			Too acid	0.59
						Wetness depth	0.89
		Water erosion	0.90				
		Too clayey	0.92				
MbuB:							
Mattapex------------	95	Fair		Poor		Fair	
		Too acid	0.12	Low strength	0.00	Too acid	0.59
		Organic matter content low	0.12	Wetness depth	0.89	Wetness depth	0.89
		Water erosion	0.90				
MbxB:							
Mattapex------------	60	Fair		Fair		Fair	
		Too acid	0.12	Wetness depth	0.89	Too acid	0.59
		Organic matter content low	0.12			Wetness depth	0.89
		Water erosion	0.90				
Urban land----------	35	Not rated		Not rated		Not rated	

Table 16b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
MutA:							
Muttontown	95	Poor		Fair		Fair	
		Organic matter content low	0.00	Wetness depth	0.89	Wetness depth	0.89
		Too acid	0.00			Rock fragments	0.98
OTKA:							
Othello	55	Poor		Poor		Poor	
		Too acid	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.12
Fallsington	45	Poor		Poor		Poor	
		Too acid	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59
						Rock fragments	0.76
OTMA:							
Othello	45	Poor		Poor		Poor	
		Too acid	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.12
Fallsington	35	Poor		Poor		Poor	
		Too acid	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too acid	0.59
						Rock fragments	0.76
Trussum	20	Fair		Poor		Poor	
		Too acid	0.08	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12	Low strength	0.00	Too acid	0.50
				Shrink-swell	0.20		
		Water erosion	0.90				
PEEAR:							
Pedricktown, rarely flooded	45	Poor		Poor		Poor	
		Too acid	0.00	Wetness depth	0.00	Wetness depth	0.00
		Organic matter content low	0.12			Too sandy	0.22
		Too sandy	0.22				
Askecksy, rarely flooded	35	Poor		Poor		Poor	
		Too sandy	0.00	Wetness depth	0.00	Too sandy	0.00
		Wind erosion	0.00			Wetness depth	0.00
		Droughty	0.27			Too acid	0.82
		Too acid	0.50				
		Organic matter content low	0.88				
Mullica, rarely flooded	20	Poor		Poor		Poor	
		Organic matter content low	0.00	Wetness depth	0.00	Wetness depth	0.00
						Hard to reclaim (rock fragments)	0.26
		Too acid	0.00			Too acid	0.76
PHG:							
Pits, sand and gravel	100	Not rated		Not rated		Not rated	

Table 16b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
PHM:							
Pits, clay	100	Not rated		Not rated		Not rated	
SacA:							
Sassafras	80	Fair		Good		Good	
		Organic matter content low	0.12				
		Too acid	0.84				
SacB:							
Sassafras	80	Fair		Good		Good	
		Organic matter content low	0.12				
		Too acid	0.84				
SacC:							
Sassafras	90	Fair		Good		Good	
		Organic matter content low	0.12				
		Too acid	0.84				
SafA:							
Sassafras	90	Fair		Good		Fair	
		Organic matter content low	0.02			Too acid	0.59
		Too acid	0.12			Hard to reclaim (rock fragments)	0.61
						Rock fragments	0.82
SanA:							
Sassafras	60	Fair		Good		Good	
		Organic matter content low	0.12				
		Too acid	0.84				
Woodstown	40	Fair		Fair		Fair	
		Too acid	0.12	Wetness depth	0.89	Too acid	0.59
		Organic matter content low	0.12			Rock fragments	0.68
						Wetness depth	0.89
ShnA:							
Sharptown	95	Poor		Poor		Fair	
		Too acid	0.00	Low strength	0.00	Too acid	0.88
		Organic matter content low	0.12	Wetness depth	0.89	Wetness depth	0.89
		Water erosion	0.90				
ShnB:							
Sharptown	95	Poor		Poor		Fair	
		Too acid	0.00	Low strength	0.00	Too acid	0.88
		Organic matter content low	0.12	Wetness depth	0.89	Wetness depth	0.89
		Water erosion	0.90				
SwtB:							
Swedesboro	90	Poor		Good		Fair	
		Wind erosion	0.00			Too acid	0.88
		Too acid	0.00				
		Organic matter content low	0.12				
		Water erosion	0.99				

Table 16b.--Construction Materials (Part 2)--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
SwtC:							
Swedesboro----------	90	Poor		Good		Fair	
		Wind erosion	0.00			Too acid	0.88
		Too acid	0.00				
		Organic matter content low	0.12				
		Water erosion	0.99				
TrkAv:							
Transquaking, very frequently flooded-	90	Poor		Poor		Poor	
		Salinity	0.00	Wetness depth	0.00	Wetness depth	0.00
						Organic matter content high	0.00
						Salinity	0.00
UddfB:							
Udorthents, dredged fine materials-----	90	Poor		Poor		Poor	
		Organic matter content low	0.00	Low strength	0.00	Too clayey	0.00
				Shrink-swell	0.89	Rock fragments	0.92
		Too clayey	0.00				
		Too acid	0.68				
		Water erosion	0.90				
UdrB:							
Udorthents, refuse substratum---------	100	Fair		Poor		Good	
		Water erosion	0.99	Low strength	0.00		
UdsB:							
Udorthents, sandy substratum---------	100	Poor		Good		Poor	
		Too sandy	0.00			Too sandy	0.00
		Organic matter content low	0.12			Hard to reclaim (rock fragments)	0.00
		Too acid	0.68			Rock fragments	0.00
		Water erosion	0.90				
		Droughty	0.99				
WoeA:							
Woodstown-----------	80	Fair		Fair		Fair	
		Organic matter content low	0.02	Wetness depth	0.89	Wetness depth	0.89
		Too acid	0.50				

Table 17.--Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AdkB:							
Adelphia------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.86	Cutbanks cave	1.00
		Slope	0.08	Seepage	0.10	Depth to saturated zone	0.06
AhmB:							
Alloway-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.73	Depth to saturated zone	0.86	Slow refill	0.91
		Slope	0.08	Hard to pack	0.31	Cutbanks cave	0.10
						Depth to saturated zone	0.06
AhpB:							
Alloway-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.73	Depth to saturated zone	0.86	Slow refill	0.96
		Slope	0.08	Hard to pack	0.38	Cutbanks cave	0.10
						Depth to saturated zone	0.06
AhpC:							
Alloway-------------	90	Very limited		Somewhat limited		Somewhat limited	
		Slope	1.00	Depth to saturated zone	0.86	Slow refill	0.96
		Seepage	0.73	Hard to pack	0.38	Cutbanks cave	0.10
						Depth to saturated zone	0.06
AhrA:							
Alloway-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.73	Depth to saturated zone	0.86	Slow refill	0.27
						Cutbanks cave	0.10
						Depth to saturated zone	0.06
AhrB:							
Alloway-------------	90	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.73	Depth to saturated zone	0.86	Slow refill	0.27
		Slope	0.08			Cutbanks cave	0.10
						Depth to saturated zone	0.06
ApbAv:							
Appoquinimink, very frequently flooded-	60	Very limited		Very limited		Very limited	
		Seepage	1.00	Organic matter content	1.00	Salinity and saturated zone	1.00
				Ponding	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Salinity	1.00		
				Piping	1.00		

Table 17.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ApbAv:							
Broadkill, very frequently flooded-	30	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Salinity and saturated zone	1.00
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Salinity	1.00		
				Piping	0.93		
				Seepage	0.03		
AucB:							
Aura----------------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.13	Depth to water	1.00
AugB:							
Aura----------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.13	Depth to water	1.00
AugC:							
Aura----------------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.13	Depth to water	1.00
		Slope	0.92				
AuhB:							
Aura----------------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
AuhC:							
Aura----------------	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	0.92				
AupA:							
Aura----------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.13	Depth to water	1.00
AupB:							
Aura----------------	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.13	Depth to water	1.00
BEXAS:							
Berryland, occasionally flooded------------	50	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
				Depth to saturated zone	1.00		
				Seepage	0.47		
Mullica, occasionally flooded------------	40	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
				Depth to saturated zone	1.00		
				Seepage	0.08		

Table 17.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ChsAt:							
Chicone, frequently flooded	95	Very limited		Very limited		Very limited	
		Seepage	1.00	Organic matter content	1.00	Cutbanks cave	1.00
				Ponding	1.00		
				Depth to saturated zone	1.00		
				Seepage	0.47		
ChtA:							
Chillum	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.90	Depth to water	1.00
				Seepage	0.64		
ChtB:							
Chillum	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.90	Depth to water	1.00
		Slope	0.08	Seepage	0.64		
DocB:							
Downer	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
DocC:							
Downer	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
		Slope	1.00				
DoeA:							
Downer	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
DoeB:							
Downer	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
DopB:							
Downer	55	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
Galestown	35	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
DouB:							
Downer	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.64	Depth to water	1.00
Urban land	30	Not rated		Not rated		Not rated	
EveB:							
Evesboro	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.47	Depth to water	1.00
EveC:							
Evesboro	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.47	Depth to water	1.00
		Slope	0.92				

Table 17.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
FmhAt:							
Fluvaquents, loamy, frequently flooded	80	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	1.00		
FodB:							
Fort Mott	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.10	Depth to water	1.00
GabB:							
Galestown	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.36	Depth to water	1.00
GamB:							
Galloway	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.42		
HbmB:							
Hammonton	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.86	Cutbanks cave	1.00
				Seepage	0.47	Depth to saturated zone	0.06
HboA:							
Hammonton	85	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.86	Cutbanks cave	1.00
				Seepage	0.38	Depth to saturated zone	0.06
HbrB:							
Hammonton	70	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.86	Cutbanks cave	1.00
				Seepage	0.47	Depth to saturated zone	0.06
Urban land	20	Not rated		Not rated		Not rated	
KeoC:							
Keyport	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.86	Slow refill	1.00
						Cutbanks cave	0.10
						Depth to saturated zone	0.06
MakAt:							
Manahawkin, frequently flooded	85	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
				Depth to saturated zone	1.00		
				Seepage	0.47		

Table 17.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
MamnAv:							
Mannington, very frequently flooded	55	Very limited		Very limited		Somewhat limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	0.10
				Depth to saturated zone	1.00		
				Piping	1.00		
Nanticoke, very frequently flooded	35	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.04	Ponding	1.00	Slow refill	0.96
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Piping	0.96		
MasB:							
Marlton	90	Somewhat limited		Somewhat limited		Very limited	
		Seepage	0.47	Depth to saturated zone	0.86	Depth to water	1.00
		Slope	0.08	Hard to pack	0.73		
MasC:							
Marlton	90	Very limited		Somewhat limited		Very limited	
		Slope	1.00	Depth to saturated zone	0.86	Depth to water	1.00
		Seepage	0.47				
MbrA:							
Matapeake	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
				Seepage	0.64		
MbrB:							
Matapeake	90	Very limited		Very limited		Very limited	
		Seepage	1.00	Piping	1.00	Depth to water	1.00
		Slope	0.08	Seepage	0.64		
MbrC:							
Matapeake	90	Very limited		Very limited		Very limited	
		Slope	1.00	Piping	1.00	Depth to water	1.00
		Seepage	1.00	Seepage	0.64		
MbuA:							
Mattapex	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.98	Cutbanks cave	1.00
				Depth to saturated zone	0.86	Depth to saturated zone	0.06
				Seepage	0.07		
MbuB:							
Mattapex	95	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Piping	0.97	Cutbanks cave	1.00
		Slope	0.08	Depth to saturated zone	0.86	Depth to saturated zone	0.06
				Seepage	0.58		
MbxB:							
Mattapex	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.86	Cutbanks cave	1.00
				Seepage	0.58	Depth to saturated zone	0.06
Urban land	35	Not rated		Not rated		Not rated	

Table 17.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MutA:							
Muttontown----------	95	Very limited		Somewhat limited		Somewhat limited	
		Seepage	1.00	Depth to saturated zone	0.86	Cutbanks cave	0.10
						Depth to saturated zone	0.06
OTKA:							
Othello-------------	55	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	1.00		
				Seepage	0.47		
Fallsington---------	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.24		
OTMA:							
Othello-------------	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Piping	1.00		
				Seepage	0.47		
Fallsington---------	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Depth to saturated zone	1.00	Cutbanks cave	1.00
				Seepage	0.24		
Trussum-------------	20	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.72	Depth to saturated zone	1.00	Slow refill	0.28
						Cutbanks cave	0.10
PEEAR:							
Pedricktown, rarely flooded------------	45	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
				Depth to saturated zone	1.00		
				Seepage	0.44		
Askecksy, rarely flooded------------	35	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
				Depth to saturated zone	1.00		
				Seepage	0.47		
Mullica, rarely flooded------------	20	Very limited		Very limited		Very limited	
		Seepage	1.00	Ponding	1.00	Cutbanks cave	1.00
				Depth to saturated zone	1.00		
				Seepage	0.08		
PHG:							
Pits, sand and gravel-------------	100	Not rated		Not rated		Not rated	
PHM:							
Pits, clay----------	100	Not limited		Not rated		Not rated	

Table 17.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Pond reservoir areas: Value	Embankments, dikes, and levees: Rating class and limiting features	Embankments, dikes, and levees: Value	Aquifer-fed excavated ponds: Rating class and limiting features	Aquifer-fed excavated ponds: Value
SacA:							
Sassafras	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.24	Depth to water	1.00
SacB:							
Sassafras	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.24	Depth to water	1.00
SacC:							
Sassafras	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.24	Depth to water	1.00
		Slope	0.92				
SafA:							
Sassafras	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.07	Depth to water	1.00
SanA:							
Sassafras	60	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.24	Depth to water	1.00
Woodstown	40	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.86	Cutbanks cave	1.00
				Seepage	0.10	Depth to saturated zone	0.06
ShnA:							
Sharptown	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.86	Slow refill	0.46
						Cutbanks cave	0.10
				Piping	0.62	Depth to saturated zone	0.06
ShnB:							
Sharptown	95	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.86	Slow refill	0.46
		Slope	0.08			Cutbanks cave	0.10
				Piping	0.62	Depth to saturated zone	0.06
SwtB:							
Swedesboro	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Depth to water	1.00
SwtC:							
Swedesboro	90	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.79	Depth to water	1.00
		Slope	1.00				
TrkAv:							
Transquaking, very frequently flooded	90	Very limited		Not rated		Very limited	
		Seepage	1.00			Salinity and saturated zone	1.00
						Cutbanks cave	0.10
UddfB:							
Udorthents, dredged fine materials	90	Somewhat limited		Somewhat limited		Very limited	
		Slope	0.08	Hard to pack	0.44	Depth to water	1.00

Table 17.--Water Management--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
UdrB:							
Udorthents, refuse substratum---------	100	Somewhat limited		Very limited		Very limited	
		Seepage	0.72	Piping	1.00	Depth to water	1.00
		Slope	0.08				
UdsB:							
Udorthents, sandy substratum---------	100	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Seepage	0.86	Depth to water	1.00
WoeA:							
Woodstown-----------	80	Very limited		Somewhat limited		Very limited	
		Seepage	1.00	Depth to saturated zone	0.86	Cutbanks cave	1.00
						Depth to saturated zone	0.06
				Seepage	0.10		

Table 18.--Engineering Index Properties

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
AdkB:												
Adelphia--------	0-10	Sandy loam	SC, SM	A-4, A-2-4, A-7-6	0	0	95-100	90-100	60-87	27-50	17-41	2-17
	10-14	Sandy loam	SM, SC	A-2-4, A-4, A-7-6	0	0	95-100	90-100	60-87	27-50	17-41	2-17
	14-56	Sandy clay loam, loam	SC, CL	A-7-6, A-6	0	0	95-100	90-100	72-94	40-59	31-45	13-25
	56-72	Stratified loamy sand to sandy loam	SM, SC, SC-SM	A-2-4	0	0	95-100	90-100	69-86	19-31	16-26	2-10
AhmB:												
Alloway---------	0-10	Sandy loam	SC-SM, SC	A-6, A-2-4, A-2-6	0	0	95-100	80-100	55-85	25-47	20-38	6-18
	10-18	Loam	SC-SM, CL	A-4, A-6	0	0	95-100	80-100	65-96	45-72	20-38	6-18
	18-24	Silty clay loam, sandy clay loam, clay	CL	A-7, A-6, A-7-6	0	0	89-100	74-100	63-98	55-88	35-48	18-28
	24-39	Clay, sandy clay loam, silty clay loam	SC, CH	A-7-6, A-6, A-7	0	0	89-100	74-100	51-100	42-100	33-73	17-51
	39-49	Clay, sandy clay loam, silty clay loam	SC, CH	A-7-6, A-6, A-7	0	0	89-100	74-100	51-100	42-100	33-73	17-51
	49-72	Clay, sandy clay loam, silty clay loam	CH, SC	A-6, A-7, A-7-6	0	0	89-100	74-100	51-100	42-100	33-73	17-51
AhpB:												
Alloway---------	0-10	Loam	SM, CL	A-4, A-6	0	0	95-100	80-100	62-97	42-73	18-39	3-19
	10-18	Loam	CL, SM	A-4, A-6	0	0	95-100	80-100	56-90	36-65	18-39	3-19
	18-24	Silty clay loam, sandy clay loam, clay	CL	A-7-6, A-6, A-7	0	0	89-100	74-100	61-97	54-86	35-48	18-28
	24-39	Clay, sandy clay loam, silty clay loam	SC, CH	A-6, A-7-6	0	0	89-100	74-100	53-100	44-100	35-82	18-58
	39-49	Clay, sandy clay loam, silty clay loam	SC, CH	A-6, A-7-6	0	0	89-100	74-100	53-100	44-100	35-82	18-58
	49-72	Clay, sandy clay loam, silty clay loam	SC, CH	A-7-6, A-6	0	0	89-100	74-100	53-100	44-100	35-82	18-58
AhpC:												
Alloway---------	0-10	Loam	SM, CL	A-4, A-6	0	0	95-100	80-100	62-97	42-73	18-39	3-19
	10-18	Loam	SM, CL	A-6, A-4	0	0	95-100	80-100	56-90	36-65	18-39	3-19
	18-24	Silty clay loam, sandy clay loam, clay	CL	A-7, A-7-6, A-6	0	0	89-100	74-100	61-97	54-86	35-48	18-28
	24-39	Clay, sandy clay loam, silty clay loam	SC, CH	A-7-6, A-6	0	0	89-100	74-100	53-100	44-100	35-82	18-58
	39-49	Sandy clay loam, clay, silty clay loam	SC, CH	A-7-6, A-6	0	0	89-100	74-100	53-100	44-100	35-82	18-58
	49-72	Clay, sandy clay loam, silty clay loam	CH, SC	A-6, A-7-6	0	0	89-100	74-100	53-100	44-100	35-82	18-58

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
AhrA:												
Alloway---------	0-11	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	85-100	70-85	22-39	7-19
	11-18	Silty clay loam, clay loam, clay, silty clay	CL	A-6, A-7-6, A-7	0	0	100	100	85-98	75-88	37-49	19-29
	18-24	Silty clay loam, clay loam, clay, silty clay	CL	A-7, A-7-6, A-6	0	0	100	100	85-98	75-88	37-49	19-29
	24-32	Clay loam, silty clay, clay, silty clay loam	CH, SC, CL	A-7, A-7-6, A-6	0	0	89-100	74-100	60-100	46-100	37-84	19-59
	32-39	Clay loam, clay, silty clay, silty clay loam	SC, CH, CL	A-7-6, A-6, A-7	0	0	89-100	74-100	60-100	46-100	37-84	19-59
	39-48	Clay loam, clay, silty clay, silty clay loam	CL, CH	A-7-6, A-6, A-7	0	0	100	100	81-100	63-100	37-84	19-59
	48-65	Clay, sandy clay loam, silty clay loam, clay loam, silty clay	CL, CH	A-7-6, A-6, A-7	0	0	100	100	78-100	61-100	37-84	19-59
	65-80	Clay, sandy clay loam, silty clay loam, clay loam, silty clay	CL, CH	A-7, A-7-6, A-6	0	0	100	100	78-100	61-100	37-84	19-59
AhrB:												
Alloway---------	0-11	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	85-100	70-85	22-39	7-19
	11-18	Silty clay loam, clay loam, clay, silty clay	CL	A-7-6, A-6, A-7	0	0	100	100	85-98	75-88	37-49	19-29
	18-24	Silty clay loam, clay loam, clay, silty clay	CL	A-7, A-7-6, A-6	0	0	100	100	85-98	75-88	37-49	19-29
	24-32	Clay loam, silty clay, clay, silty clay loam	SC, CH, CL	A-7, A-7-6, A-6	0	0	89-100	74-100	60-100	46-100	37-84	19-59
	32-39	Clay loam, clay, silty clay, silty clay loam	CH, CL, SC	A-6, A-7-6, A-7	0	0	89-100	74-100	60-100	46-100	37-84	19-59
	39-48	Clay loam, clay, silty clay, silty clay loam	CL, CH	A-7-6, A-6, A-7	0	0	100	100	81-100	63-100	37-84	19-59
	48-65	Clay, sandy clay loam, silty clay loam, silty clay, clay loam	CH, CL	A-7-6, A-7, A-6	0	0	100	100	78-100	61-100	37-84	19-59
	65-80	Clay, sandy clay loam, silty clay loam, silty clay, clay loam	CH, CL	A-7-6, A-6, A-7	0	0	100	100	78-100	61-100	37-84	19-59
ApbAv:												
Appoquinimink, very frequently flooded--------	0-6	Mucky silt loam	CL, CL-ML, OH	A-6, A-7-5, A-4	0	0	100	100	89-100	85-100	28-74	7-17
	6-21	Silt loam, silty clay loam, mucky silt loam	ML, OH, CL-ML	A-7-5, A-4, A-6	0	0	100	100	91-100	84-99	28-64	7-18
	21-32	Silt loam, silty clay loam, mucky silt loam	ML, OH, CL-ML	A-6, A-4, A-7-5	0	0	100	100	91-100	84-99	28-64	7-18
	32-43	Muck, mucky peat	PT	A-8	0	0	100	100	91-100	84-99	---	---
	43-80	Mucky peat, muck	PT	A-8	0	0	100	100	91-100	84-99	---	---

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
ApbAv:												
Broadkill, very frequently flooded--------	0-6	Mucky peat	PT	A-8	0	0	100	100	81-100	74-100	0-30	NP-15
	6-10	Silt loam, silty clay loam	OH, ML, CL-ML	A-7-5, A-4	0	0	100	100	93-100	86-100	28-59	7-18
	10-30	Silt loam, silty clay loam	OH, ML, CL-ML	A-4, A-7-5	0	0	100	100	96-100	88-100	28-59	7-18
	30-45	Silty clay loam, stratified sand to silty clay loam	ML, OH	A-7-5, A-4	0	0	100	78-100	54-100	52-100	17-88	2-26
	45-72	Sandy loam, stratified sand to silty clay loam	OH, SM	A-1-b, A-7-5, A-2-5	0	0	100	78-100	49-100	20-65	0-88	NP-26
AucB:												
Aura------------	0-7	Loamy sand	SC, SM	A-2-4	0	0	80-92	78-92	60-78	21-32	0-30	NP-9
	7-22	Coarse sandy loam, sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SC-SM, SC	A-1-b, A-2-4, A-6	0	0	54-92	52-92	32-64	18-41	18-28	4-11
	22-28	Gravelly coarse sandy loam, gravelly sandy loam, very gravelly coarse sandy loam, very gravelly sandy loam	SC, GC-GM	A-1-a, A-2-4, A-2-6	0	0	32-78	28-76	16-52	10-33	18-28	4-11
	28-59	Gravelly sandy clay loam, very gravelly sandy clay loam	SC, GC	A-2-6, A-7-6	0	0	31-77	27-76	23-75	12-45	29-43	13-24
	59-80	Gravelly loamy coarse sand, gravelly coarse sand, gravelly coarse sandy loam, very gravelly coarse sandy loam, very gravelly coarse sand, very gravelly loamy coarse sand	SC-SM, GP-GM, SC	A-1-a, A-1-b, A-2-6	0	0	33-79	29-78	14-50	5-24	0-28	NP-11

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
AugB:												
Aura------------	0-8	Sandy loam, coarse sandy loam, gravelly sandy loam	SC-SM, SC	A-2-4, A-6	0	0	54-92	52-92	39-76	19-42	20-33	4-11
	8-13	Coarse sandy loam, sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SC-SM, SC	A-1-b, A-2-4, A-6	0	0	54-92	52-92	32-64	18-41	18-28	4-11
	13-22	Coarse sandy loam, sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SC, SC-SM	A-1-b, A-2-4, A-6	0	0	54-92	52-92	32-64	18-41	18-28	4-11
	22-28	Gravelly coarse sandy loam, gravelly sandy loam, very gravelly coarse sandy loam, very gravelly sandy loam	SC, GC-GM	A-2-4, A-1-a, A-2-6	0	0	33-79	29-78	17-52	10-34	18-28	4-11
	28-44	Gravelly sandy clay loam, very gravelly sandy clay loam	SC, GC	A-7-6, A-2-6	0	0	32-78	28-77	24-76	13-46	29-43	13-24
	44-59	Gravelly sandy clay loam, very gravelly sandy clay loam	SC, GC	A-7-6, A-2-6	0	0	32-78	28-77	24-76	13-46	29-43	13-24
	59-80	Gravelly loamy coarse sand, gravelly coarse sand, gravelly coarse sandy loam, very gravelly coarse sandy loam, very gravelly coarse sand, very gravelly loamy coarse sand	SC-SM, SC, GP-GM	A-1-a, A-1-b, A-2-6	0	0	33-79	29-78	14-50	5-24	0-28	NP-11

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
AugC:												
Aura------------	0-8	Sandy loam, coarse sandy loam, gravelly sandy loam	SC-SM, SC	A-2-4, A-6	0	0	54-92	52-92	39-76	19-42	20-33	4-11
	8-13	Coarse sandy loam, sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SC, SC-SM	A-1-b, A-2-4, A-6	0	0	54-92	52-92	32-64	18-41	18-28	4-11
	13-22	Coarse sandy loam, sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SC, SC-SM	A-1-b, A-2-4, A-6	0	0	54-92	52-92	32-64	18-41	18-28	4-11
	22-28	Gravelly coarse sandy loam, gravelly sandy loam, very gravelly coarse sandy loam, very gravelly sandy loam	SC, GC-GM	A-2-4, A-1-a, A-2-6	0	0	33-79	29-78	17-52	10-34	18-28	4-11
	28-44	Gravelly sandy clay loam, very gravelly sandy clay loam	SC, GC	A-7-6, A-2-6	0	0	32-78	28-77	24-76	13-46	29-43	13-24
	44-59	Gravelly sandy clay loam, very gravelly sandy clay loam	SC, GC	A-7-6, A-2-6	0	0	32-78	28-77	24-76	13-46	29-43	13-24
	59-80	Gravelly loamy coarse sand, gravelly coarse sand, gravelly coarse sandy loam, very gravelly coarse sandy loam, very gravelly coarse sand, very gravelly loamy coarse sand	SC-SM, SC, GP-GM	A-1-a, A-1-b, A-2-6	0	0	33-79	29-78	14-50	5-24	0-28	NP-11
AuhB:												
Aura------------	0-8	Gravelly sandy loam	SC, SM	A-1-b, A-2-4	0	0	86-92	49-75	37-62	18-34	20-37	3-13
	8-12	Gravelly sandy loam	SC, SM	A-2-4, A-1-b	0	0	86-92	49-75	37-62	18-34	20-37	3-13
	12-20	Gravelly sandy clay loam	SC	A-2-6, A-2-4, A-7-6	0	0	77-92	53-77	40-75	21-46	25-44	9-25
	20-36	Gravelly sandy clay loam	SC	A-2-6, A-2-4, A-7-6	0	0	77-93	54-78	41-75	21-46	25-44	9-25
	36-40	Gravelly sand, loamy sand	SC, SP-SM, SW	A-1-b, A-7-6	0	0	86-100	52-100	39-100	4-37	0-41	NP-22
	40-72	Gravelly sand, loamy sand	SP-SM, SW, SC	A-1-b, A-7-6	0	0	86-100	52-100	39-100	4-37	0-41	NP-22

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
AuhC:												
Aura	0-8	Gravelly sandy loam	SM, SC	A-1-b, A-2-4	0	0	86-92	49-75	37-62	18-34	20-37	3-13
	8-12	Gravelly sandy loam	SC, SM	A-2-4, A-1-b	0	0	86-92	49-75	37-62	18-34	20-37	3-13
	12-20	Gravelly sandy clay loam	SC	A-7-6, A-2-6, A-2-4	0	0	77-92	53-77	40-75	21-46	25-44	9-25
	20-36	Gravelly sandy clay loam	SC	A-7-6, A-2-6, A-2-4	0	0	77-93	54-78	41-75	21-46	25-44	9-25
	36-40	Gravelly sand, loamy sand	SC, SW, SP-SM	A-1-b, A-7-6	0	0	86-100	52-100	39-100	4-37	0-41	NP-22
	40-72	Gravelly sand, loamy sand	SP-SM, SC, SW	A-1-b, A-7-6	0	0	86-100	52-100	39-100	4-37	0-41	NP-22
AupA:												
Aura	0-8	Loam	SM, CL-ML, CL	A-4	0	0	77-91	75-90	63-82	44-60	20-33	3-10
	8-13	Coarse sandy loam, sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SC, SC-SM	A-6, A-2-4, A-1-b	0	0	54-92	52-92	32-64	18-41	18-28	4-11
	13-22	Coarse sandy loam, sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SC, SC-SM	A-6, A-2-4, A-1-b	0	0	54-92	52-92	32-64	18-41	18-28	4-11
	22-28	Gravelly coarse sandy loam, gravelly sandy loam, very gravelly coarse sandy loam, very gravelly sandy loam	GC-GM, SC	A-2-4, A-1-a, A-2-6	0	0	33-79	29-78	17-52	10-34	18-28	4-11
	28-44	Gravelly sandy clay loam, very gravelly sandy clay loam	SC, GC	A-7-6, A-2-6	0	0	32-78	28-77	24-76	13-46	29-43	13-24
	44-59	Gravelly sandy clay loam, very gravelly sandy clay loam	SC, GC	A-7-6, A-2-6	0	0	32-78	28-77	24-76	13-46	29-43	13-24
	59-80	Gravelly loamy coarse sand, gravelly coarse sand, gravelly coarse sandy loam, very gravelly coarse sandy loam, very gravelly coarse sand, very gravelly loamy coarse sand	SC-SM, SC, GP-GM	A-1-a, A-2-6, A-1-b	0	0	33-79	29-78	14-50	5-24	0-28	NP-11

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
AupB:												
Aura------------	0-8	Loam	SM, CL-ML, CL	A-4	0	0	77-91	75-90	63-84	45-62	20-33	3-10
	8-13	Coarse sandy loam, sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SC, SC-SM	A-1-b, A-2-4, A-6	0	0	54-92	52-92	32-64	18-41	18-28	4-11
	13-22	Coarse sandy loam, sandy loam, gravelly coarse sandy loam, gravelly sandy loam	SC, SC-SM	A-1-b, A-2-4, A-6	0	0	54-92	52-92	32-64	18-41	18-28	4-11
	22-28	Gravelly coarse sandy loam, gravelly sandy loam, very gravelly coarse sandy loam, very gravelly sandy loam	SC, GC-GM	A-2-4, A-1-a, A-2-6	0	0	33-79	29-78	17-52	10-34	18-28	4-11
	28-44	Gravelly sandy clay loam, very gravelly sandy clay loam	SC, GC	A-7-6, A-2-6	0	0	32-78	28-77	24-76	13-46	29-43	13-24
	44-59	Gravelly sandy clay loam, very gravelly sandy clay loam	SC, GC	A-7-6, A-2-6	0	0	32-78	28-77	24-76	13-46	29-43	13-24
	59-80	Gravelly loamy coarse sand, gravelly coarse sand, gravelly coarse sandy loam, very gravelly coarse sandy loam, very gravelly coarse sand, very gravelly loamy coarse sand	SC-SM, SC, GP-GM	A-1-a, A-1-b, A-2-6	0	0	33-79	29-78	14-50	5-24	0-28	NP-11
BEXAS:												
Berryland, occasionally flooded--------	0-11	Sand	SP-SM, SM	A-3, A-2-4	0	0	72-100	70-100	53-83	8-18	0-30	NP-5
	11-19	Sand, loamy sand	SP-SM, SC	A-3, A-2-4	0	0	79-100	78-100	59-88	8-23	0-26	NP-9
	19-32	Sand, loamy sand	SP-SM, SC	A-3, A-2-4	0	0	79-100	78-100	59-88	8-23	0-25	NP-9
	32-40	Sand, loamy sand	SP-SM, SC	A-3, A-2-4	0	0	79-100	78-100	59-88	8-23	0-26	NP-9
	40-44	Sand, loamy sand	SC, SP-SM	A-3, A-2-4	0	0	78-100	76-100	58-88	8-23	0-25	NP-9
	44-80	Stratified sand to sandy loam, sand	SC-SM, SP-SM, SC	A-2-4, A-3	0	0	78-100	76-100	55-86	5-20	0-26	NP-10

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
BEXAS:												
Mullica, occasionally flooded--------	0-2	Mucky peat	PT	A-8	0	0	79-100	78-100	58-83	28-45	---	---
	2-9	Sandy loam	SM	A-2-4, A-4	0	0	79-100	78-100	58-83	28-45	21-35	3-10
	9-14	Sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	79-100	78-100	56-81	29-46	19-31	3-10
	14-28	Sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	79-100	78-100	56-81	29-46	19-31	3-10
	28-31	Loamy sand, sand, stratified sand to loamy sand	SM, SC	A-2-4, A-4	0	0	80-100	79-100	60-88	20-38	0-26	NP-9
	31-40	Sand, loamy sand, stratified sand to loamy sand	SP-SM, SC	A-2-4, A-3	0	0	80-100	79-100	60-88	9-23	0-26	NP-9
	40-80	Gravelly loamy sand, gravelly sand, loamy sand, sand	SM, GM, SC	A-4, A-1-b	0	0	53-95	53-95	40-83	14-36	0-25	NP-9
ChsAt:												
Chicone, frequently flooded--------	0-5	Silt loam	CL-ML, ML	A-4, A-6	0	0	97-100	96-100	95-100	79-88	26-40	7-12
	5-20	Silt loam	CL-ML, CL	A-4, A-6	0	0	97-100	96-100	95-100	79-88	22-33	7-12
	20-28	Silt loam, loam	CL-ML, CL, ML	A-4, A-6	0	0	97-100	96-100	90-100	74-88	18-33	3-12
	28-65	Mucky peat	PT	A-8	0	0	72-100	70-100	54-88	8-23	---	---
	65-80	Sand, loamy sand, gravelly sand, gravelly loamy sand	SP-SM, SC	A-2-4, A-3	0	0	55-100	52-100	40-88	6-23	0-28	NP-9
ChtA:												
Chillum---------	0-10	Silt loam	CL, CL-ML	A-7-6, A-4, A-6	0	0	100	100	95-100	86-100	24-43	7-18
	10-15	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	81-96	22-38	7-19
	15-28	Silt loam, silty clay loam	CL-ML, CL	A-4, A-6	0	0	100	100	85-100	81-96	22-38	7-19
	28-34	Silt loam, silty clay loam	CL-ML, CL	A-4, A-6	0	0	100	100	85-100	81-96	22-38	7-19
	34-38	Loam	CL, ML, CL-ML	A-6, A-4, A-7-6	0	0	100	100	89-100	67-87	20-43	3-18
	38-61	Sandy loam, very gravelly sandy loam, gravelly sandy loam	SM, SC	A-2-4, A-1-b, A-6	0	0	63-100	49-100	31-82	13-45	0-32	NP-13
	61-66	Sandy loam, very gravelly sandy loam, gravelly sandy loam	SC, SM	A-1-b, A-2-4, A-6	0	0	63-100	49-100	31-82	13-45	0-32	NP-13
	66-72	Sand	SP-SM, SC-SM	A-2-4	0	0	92-100	77-100	57-82	5-15	0-23	NP-6

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
ChtB:												
Chillum---------	0-10	Silt loam	CL, CL-ML	A-7-6, A-4, A-6	0	0	100	100	95-100	86-100	24-43	7-18
	10-15	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	85-100	81-96	22-38	7-19
	15-28	Silt loam, silty clay loam	CL-ML, CL	A-4, A-6	0	0	100	100	85-100	81-96	22-38	7-19
	28-34	Silt loam, silty clay loam	CL-ML, CL	A-4, A-6	0	0	100	100	85-100	81-96	22-38	7-19
	34-38	Loam	ML, CL-ML, CL	A-6, A-4, A-7-6	0	0	100	100	89-100	67-87	20-43	3-18
	38-61	Sandy loam, very gravelly sandy loam, gravelly sandy loam	SC, SM	A-1-b, A-6, A-2-4	0	0	63-100	49-100	31-82	13-45	0-32	NP-13
	61-66	Sandy loam, very gravelly sandy loam, gravelly sandy loam	SC, SM	A-6, A-1-b, A-2-4	0	0	63-100	49-100	31-82	13-45	0-32	NP-13
	66-72	Sand	SC-SM, SP-SM	A-2-4	0	0	92-100	77-100	57-82	5-15	0-23	NP-6
DocB:												
Downer----------	0-10	Loamy sand	SM, SC	A-2-4, A-4	0	0	81-100	78-100	60-88	21-38	0-30	NP-9
	10-16	Loamy sand	SM, SC	A-2-4, A-4	0	0	78-100	77-100	59-88	21-38	0-26	NP-9
	16-36	Sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-4, A-1-b	0	0	54-100	52-100	37-81	19-46	17-27	3-10
	36-48	Loamy sand, sand, gravelly loamy sand, gravelly sand	SM, SC	A-2-4, A-1-b, A-4	0	0	55-100	52-100	40-89	14-39	0-26	NP-10
	48-80	Stratified sand to sandy loam, stratified gravelly sand to gravelly sandy loam	SP-SM, SC	A-2-4, A-1-b	0	0	55-100	52-100	39-87	4-20	0-26	NP-10
DocC:												
Downer----------	0-10	Loamy sand	SM, SC	A-2-4, A-4	0	0	81-100	78-100	60-88	21-38	0-30	NP-9
	10-16	Loamy sand	SM, SC	A-4, A-2-4, A-1-b	0	0	66-100	64-100	49-88	17-38	0-26	NP-9
	16-36	Sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-4, A-1-b	0	0	54-100	52-100	37-81	19-46	17-27	3-10
	36-48	Loamy sand, sand, gravelly loamy sand, gravelly sand	SM, SC	A-2-4, A-1-b, A-4	0	0	55-100	52-100	40-89	14-39	0-26	NP-10
	48-80	Stratified sand to sandy loam, stratified gravelly sand to gravelly sandy loam	SP-SM, SC	A-2-4, A-1-b, A-3	0	0	55-100	52-100	39-87	4-20	0-26	NP-10

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
DoeA:												
Downer----------	0-10	Sandy loam	SC-SM, SM	A-2-4, A-4	0	0	79-100	78-100	58-81	29-44	18-30	2-7
	10-16	Sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-1-b, A-4	0	0	55-100	52-100	38-81	19-46	17-27	3-10
	16-36	Sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-1-b, A-4	0	0	54-100	52-100	37-81	19-46	17-27	3-10
	36-48	Loamy sand, sand, gravelly loamy sand, gravelly sand	SM, SC	A-2-4, A-1-b, A-4	0	0	55-100	52-100	40-89	14-39	0-26	NP-10
	48-80	Stratified sand to sandy loam, stratified gravelly sand to gravelly sandy loam	SP-SM, SC	A-2-4, A-1-b	0	0	55-100	52-100	39-87	4-20	0-26	NP-10
DoeB:												
Downer----------	0-10	Sandy loam	SC-SM, SM	A-4, A-2-4	0	0	79-100	78-100	58-81	29-44	18-30	2-7
	10-16	Sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-4, A-1-b	0	0	55-100	52-100	38-81	19-46	17-27	3-10
	16-36	Sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-1-b, A-4	0	0	54-100	52-100	37-81	19-46	17-27	3-10
	36-48	Loamy sand, sand, gravelly loamy sand, gravelly sand	SM, SC	A-2-4, A-1-b, A-4	0	0	55-100	52-100	40-89	14-39	0-26	NP-10
	48-80	Stratified sand to sandy loam, stratified gravelly sand to gravelly sandy loam	SP-SM, SC	A-2-4, A-1-b	0	0	55-100	52-100	39-87	4-20	0-26	NP-10
DopB:												
Downer----------	0-10	Loamy sand	SM, SC	A-2-4, A-4	0	0	81-100	78-100	60-88	21-38	0-30	NP-9
	10-16	Loamy sand	SM, SC	A-4, A-2-4, A-1-b	0	0	66-100	64-100	49-88	17-38	0-26	NP-9
	16-36	Sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-4, A-1-b	0	0	54-100	52-100	37-81	19-46	17-27	3-10
	36-48	Loamy sand, sand, gravelly loamy sand, gravelly sand	SM, SC	A-2-4, A-1-b, A-4	0	0	55-100	52-100	40-89	14-39	0-26	NP-10
	48-80	Stratified sand to sandy loam, stratified gravelly sand to gravelly sandy loam	SP-SM, SC	A-2-4, A-1-b, A-3	0	0	55-100	52-100	39-87	4-20	0-26	NP-10
Galestown-------	0-10	Loamy sand	SC-SM, SM	A-2-4, A-2	0	0	96-100	75-100	58-83	15-26	16-26	1-6
	10-50	Loamy sand, sand, loamy fine sand	SC-SM, SM	A-2, A-2-4	0	0	95-100	90-100	70-83	18-26	15-23	1-6
	50-72	Gravelly loamy sand, sand, loamy sand, gravelly sand	SM	A-2-4, A-1-b	0	0	86-100	53-100	40-81	14-31	0-20	NP-3

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
DouB:												
Downer----------	0-10	Sandy loam, loamy sand	SM, SC, SC-SM	A-4, A-2-4	0	0	93-100	92-100	63-80	29-44	0-31	NP-10
	10-16	Sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-4, A-1-b	0	0	55-100	52-100	38-81	19-46	17-27	3-10
	16-36	Sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-1-b, A-4	0	0	54-100	52-100	37-81	19-46	17-27	3-10
	36-48	Loamy sand, sand, gravelly loamy sand, gravelly sand	SM, SC	A-2-4, A-1-b, A-4	0	0	55-100	52-100	40-89	14-39	0-26	NP-10
	48-80	Stratified sand to sandy loam, stratified gravelly sand to gravelly sandy loam	SP-SM, SC	A-2-4, A-1-b	0	0	55-100	52-100	39-87	4-20	0-26	NP-10
Urban land------	---	---	---	---	---	---	---	---	---	---	---	---
EveB:												
Evesboro--------	0-4	Sand	SP-SM, SC-SM	A-2-4, A-3	0	0	83-100	79-100	60-83	9-18	0-24	NP-5
	4-17	Sand	SP-SM, SC-SM	A-2-4, A-3	0	0	83-100	79-100	60-83	9-18	0-21	NP-5
	17-31	Sand, loamy sand	SP-SM, SC	A-2-4, A-3	0	0	82-100	78-100	60-88	9-23	0-25	NP-9
	31-80	Stratified loamy sand to sand, sand, loamy sand, sandy loam, gravelly sandy loam, gravelly loamy sand, gravelly sand	SC-SM, SP-SM, SC	A-2-4, A-1-b	0	0	61-100	52-100	40-90	8-28	0-26	NP-10
EveC:												
Evesboro--------	0-4	Sand	SP-SM, SC-SM	A-2-4, A-3	0	0	83-100	79-100	60-83	9-18	0-24	NP-5
	4-17	Sand	SP-SM, SC-SM	A-2-4, A-3	0	0	83-100	79-100	60-83	9-18	0-21	NP-5
	17-31	Sand, loamy sand	SP-SM, SC	A-2-4, A-3	0	0	82-100	78-100	60-88	9-23	0-25	NP-9
	31-80	Stratified loamy sand to sand, sand, loamy sand, sandy loam, gravelly sandy loam, gravelly loamy sand, gravelly sand	SC-SM, SP-SM, SC	A-2-4, A-1-b	0	0	61-100	52-100	39-88	10-31	0-26	NP-10

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	Percentage passing sieve number--: 10	Percentage passing sieve number--: 40	Percentage passing sieve number--: 200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
FmhAt:												
Fluvaquents, loamy, frequently flooded--------	0-5	Loam, silt loam	CL, ML, SM	A-4, A-7-6	0	0-5	95-100	74-100	60-100	43-78	22-45	3-18
	5-12	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0-5	95-100	76-100	68-100	55-87	22-38	7-19
	12-18	Sandy clay loam	SC, CL	A-2-6, A-6, A-7-6	0	0-11	90-100	57-100	44-92	26-60	29-44	13-25
	18-24	Sandy clay loam	CL, SC	A-6, A-7-6, A-2-6	0	0-11	90-100	57-100	44-92	26-60	29-44	13-25
	24-60	Sandy loam	CL, SM, SC-SM	A-1-b, A-4	0-1	0-10	90-100	59-100	42-81	24-51	16-27	2-10
FodB:												
Fort Mott-------	0-8	Loamy sand	SC-SM, SC, SM	A-2, A-2-4	0	0	90-100	77-100	57-88	13-31	0-31	NP-10
	8-30	Loamy sand	SC-SM, SC, SM	A-2-4, A-2	0	0	90-100	77-100	57-88	13-31	0-31	NP-10
	30-33	Sandy loam	SC, SC-SM, SM	A-1-b, A-2-4, A-6	0	0	91-100	78-100	49-82	20-45	0-32	NP-13
	33-49	Sandy loam	SC, SC-SM, SM	A-2-6, A-1-b, A-6	0	0	91-100	78-100	47-79	17-41	0-32	NP-13
	49-72	Loamy sand, gravelly loamy sand	SC-SM, SC, SP-SM	A-2-4, A-1-b	0	0	86-100	52-100	37-86	9-31	0-27	NP-10
GabB:												
Galestown-------	0-10	Sand	SP-SM, SC-SM	A-1-b, A-2-4	0	0	96-100	60-100	45-82	6-16	16-26	1-6
	10-23	Loamy sand, sand	SC-SM, SM, SC	A-2, A-2-4	0	0	95-100	90-100	70-88	18-31	15-27	1-10
	23-30	Loamy sand, sand	SM, SC-SM, SC	A-2, A-2-4	0	0	95-100	90-100	70-88	18-31	15-27	1-10
	30-38	Loamy sand, sand	SC-SM, SM, SC	A-2, A-2-4	0	0	95-100	90-100	70-88	18-31	15-27	1-10
	38-60	Sand, loamy sand	SC-SM, SP-SM	A-2, A-2-4	0	0	95-100	90-100	70-83	9-16	15-23	1-6
GamB:												
Galloway--------	0-2	Loamy sand	SM, SC-SM, SC	A-2-4	0	0	100	94-100	70-88	17-31	0-33	NP-10
	2-10	Loamy sand	SM, SC-SM, SC	A-2-4	0	0	100	94-100	70-88	17-31	0-33	NP-10
	10-24	Loamy sand	SM, SC, SC-SM	A-2-4	0	0	100	94-100	70-88	17-31	0-33	NP-10
	24-36	Loamy sand	SM, SC-SM, SC	A-2-4	0	0	100	94-100	70-88	17-31	0-33	NP-10
	36-52	Sand	SP-SM, SC-SM	A-2-4, A-3	0	0	90-100	76-100	58-84	7-17	0-22	NP-6
	52-60	Sand	SP-SM, SC-SM	A-2-4, A-3	0	0	90-100	76-100	58-84	7-17	0-22	NP-6
HbmB:												
Hammonton-------	0-8	Loamy sand	SM, SC	A-2-4, A-4	0	0	78-100	78-100	60-88	21-38	0-32	NP-9
	8-18	Loamy sand, gravelly loamy sand	SM, SC	A-2-4, A-4	0	0	52-100	52-100	40-88	14-38	0-27	NP-9
	18-36	Sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	52-100	52-100	37-81	19-46	17-28	3-10
	36-80	Sand, loamy sand, gravelly sand, gravelly loamy sand	SP-SM, SC	A-1-b, A-2-4	0	0	53-100	53-100	41-88	6-23	0-25	NP-9

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
HboA:												
Hammonton-------	0-8	Sandy loam	SC, SM, SC-SM	A-2-4, A-6	0	0	90-100	76-100	57-89	27-50	18-37	2-13
	8-18	Sandy loam	SM, SC, SC-SM	A-2-4, A-6	0	0	90-100	76-100	57-89	27-50	18-37	2-13
	18-36	Sandy loam	SM, SC	A-2-4, A-6	0	0	91-100	78-100	53-83	24-45	16-32	2-13
	36-60	Sand	SC-SM, SP-SM	A-2-4	0	0	91-100	79-100	59-83	8-19	0-23	NP-6
HbrB:												
Hammonton-------	0-8	Loamy sand	SM, SC	A-2-4, A-4	0	0	78-100	78-100	60-88	21-38	0-32	NP-9
	8-18	Loamy sand, gravelly loamy sand	SM, SC	A-2-4, A-4	0	0	52-100	52-100	40-88	14-38	0-27	NP-9
	18-36	Sandy loam, gravelly sandy loam	SC, SC-SM, SM	A-2-4, A-4	0	0	52-100	52-100	37-81	19-46	17-28	3-10
	36-80	Sand, loamy sand, gravelly sand, gravelly loamy sand	SP-SM, SC	A-1-b, A-2-4	0	0	53-100	53-100	41-88	6-23	0-25	NP-9
Urban land------	---	---	---	---	---	---	---	---	---	---	---	---
KeoC:												
Keyport---------	0-10	Loam	SM, CL	A-6, A-7-6, A-4	0	0	95-100	89-100	69-98	48-73	20-43	3-18
	10-16	Loam	SM, CL	A-6, A-4, A-7-6	0	0	95-100	89-100	69-98	48-73	20-43	3-18
	16-24	Clay loam, clay	CL	A-7, A-6, A-7-6	0	0	95-100	90-100	73-95	56-76	37-50	19-29
	24-38	Clay loam, clay	CL	A-7-6, A-7, A-6	0	0	95-100	90-100	74-95	57-76	37-50	19-29
	38-60	Clay loam, clay	CL	A-7, A-6, A-7-6	0	0	95-100	90-100	74-95	57-76	37-50	19-29
MakAt:												
Manahawkin, frequently flooded--------	0-13	Muck	PT	A-8	0	0	38-100	34-100	26-88	4-23	---	---
	13-26	Muck	PT	A-8	0	0	38-100	34-100	26-88	4-23	---	---
	26-47	Muck	PT	A-8	0	0	38-100	34-100	26-88	4-23	---	---
	47-80	Sand, loamy sand, gravelly sand, gravelly loamy sand, very gravelly sand	SP-SM, GP, SC	A-1-a, A-2-4	0	0	30-100	26-100	20-88	3-23	0-28	NP-9

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
MamnAv:												
Mannington, very frequently flooded--------	0-14	Mucky silt loam	OL, OH	A-7-5, A-5	0	0	82-100	81-100	80-100	66-88	44-70	7-11
	14-32	Silt loam, silty clay loam, mucky silt loam	MH, CL, OH	A-6, A-7-5	0	0	92-100	91-100	86-100	80-100	35-82	13-22
	32-42	Muck	PT	A-8	0	0	82-100	81-100	79-100	66-88	---	---
	42-52	Mucky peat	PT	A-8	0	0	82-100	81-100	79-100	66-88	---	---
	52-62	Mucky silt loam	OH, OL	A-5, A-7-5	0	0	82-100	81-100	79-100	66-88	44-70	7-11
	62-90	Silt loam, silty clay loam, stratified sandy loam to silt loam to silty clay loam	ML, CL, MH	A-4, A-5, A-7-5	0	0	92-100	91-100	89-100	75-100	28-59	9-23
Nanticoke, very frequently flooded--------	0-5	Mucky silt loam	OH, OL	A-5	0	0	98-100	98-100	94-100	82-90	41-68	4-9
	5-50	Silt loam	CL, ML	A-7-6, A-6	0	0	98-100	98-100	95-100	82-91	28-45	12-17
	50-80	Silt loam, silty clay loam	MH, CL, CL-ML	A-4, A-7-6	0	0	98-100	98-100	93-100	78-100	23-57	7-27
MasB:												
Marlton---------	0-10	Silt loam	CL, CL-ML	A-6, A-4	0	0	94-100	88-100	78-97	63-79	21-35	6-12
	10-24	Clay, sandy clay loam, sandy clay	CH, SC	A-7-6, A-6, A-7	0	0	95-100	76-100	45-100	41-100	39-102	21-73
	24-30	Clay, sandy clay loam, sandy clay	SC, CH	A-7-6, A-7, A-6	0	0	95-100	76-100	45-100	41-100	39-102	21-73
	30-44	Clay, sandy clay loam, sandy clay	CH, SC	A-7, A-6, A-7-6	0	0	95-100	76-100	45-100	41-100	39-102	21-73
	44-72	Stratified sandy loam to clay	SC, CH	A-7-6, A-2-4, A-6	0	0	95-100	76-100	49-100	25-100	24-100	9-73
MasC:												
Marlton---------	0-7	Silt loam	CL-ML, CL	A-4, A-7-6	0	0	94-100	88-100	80-100	65-88	23-43	7-18
	7-11	Silt loam	CL, CL-ML	A-4, A-7-6	0	0	94-100	88-100	80-100	65-88	23-43	7-18
	11-17	Silt loam, fine sandy loam	CL, CL-ML	A-6, A-4	0	0	95-100	76-100	62-97	54-86	24-39	7-19
	17-28	Sandy clay, clay	SC, CH	A-7-6	0	0	95-100	76-100	63-100	39-72	43-63	25-40
	28-40	Sandy clay, clay	CH, SC	A-7-6	0	0	95-100	76-100	63-100	39-72	43-63	25-40
	40-72	Stratified sandy loam to clay	SC-SM, CL, SC	A-6, A-2-4, A-7-6	0	0	95-100	76-100	51-96	24-60	22-49	7-28

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
MbrA:												
Matapeake-------	0-10	Silt loam	CL, CL-ML	A-7-6, A-4	0	0	100	100	98-100	90-100	24-41	7-19
	10-25	Silt loam, silty clay loam, loam	CL-ML, CL	A-6, A-4	0	0	100	100	89-100	82-97	22-38	7-19
	25-33	Silt loam, silty clay loam, loam	CL-ML, CL	A-6, A-4	0	0	100	100	89-100	82-97	22-38	7-19
	33-50	Stratified sandy loam to loamy sand, sand, loamy sand, sandy loam	SC, SC-SM, SM	A-6, A-2-4	0	0	96-100	87-100	64-92	15-36	0-32	NP-13
	50-72	Sand, loamy sand, sandy loam	SC-SM, SP-SM	A-2-4, A-2, A-3	0	0	96-100	87-100	64-82	6-15	0-23	NP-6
MbrB:												
Matapeake-------	0-10	Silt loam	CL-ML, CL	A-4, A-7-6	0	0	100	100	98-100	90-100	24-41	7-19
	10-25	Silt loam, silty clay loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	89-100	82-97	22-38	7-19
	25-33	Silt loam, silty clay loam, loam	CL-ML, CL	A-6, A-4	0	0	100	100	89-100	82-97	22-38	7-19
	33-50	Stratified sandy loam to loamy sand, sand, loamy sand, sandy loam	SC, SM, SC-SM	A-2-4, A-6	0	0	96-100	87-100	64-92	15-36	0-32	NP-13
	50-72	Sand, loamy sand, sandy loam	SP-SM, SC-SM	A-2-4, A-2, A-3	0	0	96-100	87-100	64-82	6-15	0-23	NP-6
MbrC:												
Matapeake-------	0-10	Silt loam	CL, CL-ML	A-4, A-7-6	0	0	100	100	98-100	90-100	24-41	7-19
	10-25	Silt loam, silty clay loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	89-100	82-97	22-38	7-19
	25-33	Silt loam, silty clay loam, loam	CL, CL-ML	A-4, A-6	0	0	100	100	89-100	82-97	22-38	7-19
	33-50	Stratified sandy loam to loamy sand, sand, loamy sand, sandy loam	SM, SC-SM, SC	A-6, A-2-4	0	0	96-100	87-100	64-92	15-36	0-32	NP-13
	50-72	Sand, loamy sand, sandy loam	SC-SM, SP-SM	A-2-4, A-2, A-3	0	0	96-100	87-100	64-82	6-15	0-23	NP-6
MbuA:												
Mattapex--------	0-7	Silt loam	CL, CL-ML	A-4, A-7-6	0	0	94-100	83-100	81-100	74-100	23-43	7-18
	7-18	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	88-100	84-99	22-38	7-19
	18-33	Silty clay loam, silt loam	CL-ML, CL	A-4, A-7-6, A-6	0	0	100	100	80-100	76-100	22-49	7-28
	33-40	Silty clay loam, silt loam	CL-ML, CL	A-6, A-4, A-7-6	0	0	100	100	80-100	76-100	22-49	7-28
	40-72	Loamy sand, sand, sandy loam	SC, SM	A-2-4, A-4	0	0	95-100	86-100	65-89	22-40	0-27	NP-10

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
MbuB:												
Mattapex--------	0-9	Silt loam	CL, CL-ML	A-4, A-7-6	0	0	94-100	83-100	81-100	74-100	23-43	7-18
	9-12	Silt loam	CL, CL-ML	A-4, A-7-6	0	0	94-100	83-100	81-100	74-100	23-43	7-18
	12-52	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	88-100	84-99	22-38	7-19
	52-56	Stratified loamy sand to fine sandy loam, loamy sand, loam, fine sandy loam	SC, SC-SM, SP-SM	A-2-4, A-3	0	0	95-100	86-100	61-85	9-25	0-27	NP-10
	56-72	Stratified sand to loamy sand, loamy sand, sand	SP-SM, SC-SM	A-3, A-2-4	0	0	95-100	86-100	63-82	6-16	0-23	NP-6
MbxB:												
Mattapex--------	0-10	Silt loam	CL, CL-ML	A-7-6, A-4	0	0	94-100	83-100	81-100	74-100	23-43	7-18
	10-18	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	88-100	84-99	22-38	7-19
	18-40	Fine sandy loam, loam, loamy sand	SC-SM, SM, CL, ML, SC	A-2-4, A-4, A-6	0	0	95-100	86-100	69-100	28-51	0-32	NP-13
	40-72	Stratified sand to sandy loam, sand, loamy sand	SC-SM, SP-SM	A-2-4, A-3	0	0	95-100	86-100	63-82	6-16	0-23	NP-6
Urban land------	---	---	---	---	---	---	---	---	---	---	---	---
MutA:												
Muttontown------	0-2	Moderately decomposed plant material	PT	A-8	0	0	91-100	79-100	54-88	24-50	---	---
	2-3	Sandy loam	SM, SC, SC-SM	A-6, A-2-4	0	0	91-100	79-100	54-88	24-50	0-33	NP-13
	3-7	Sandy loam	SC-SM, SM, SC	A-6, A-2-4	0	0	91-100	79-100	54-87	24-50	0-33	NP-13
	7-20	Sandy loam, loamy sand, sandy clay loam	SC-SM, SC	A-6, A-2-4, A-2-6	0	0	90-100	77-100	53-79	24-41	20-30	6-13
	20-38	Sandy clay loam, sandy loam, loamy sand	SC, SC-SM, CL	A-7-6, A-2-4, A-6	0	0	90-100	77-100	57-99	27-61	20-43	6-25
	38-57	Stratified sandy loam to sandy clay loam, sandy clay loam, sandy loam	CL, SC, SC-SM	A-7-6, A-2-4, A-6	0	0	91-100	79-100	56-97	27-60	20-43	6-25
	57-72	Sandy clay, sandy clay loam, sandy loam	CH, SC-SM, SC	A-1-b, A-7-6	0	0	90-100	76-100	45-100	20-72	20-60	6-40
OTKA:												
Othello---------	0-1	Mucky peat	PT	A-8	0	0	92-100	91-100	88-100	72-89	---	---
	1-13	Silt loam	CL-ML, CL	A-4, A-6	0	0	92-100	91-100	88-100	72-89	21-33	4-12
	13-32	Silt loam	CL	A-4, A-6	0	0	84-100	83-100	79-100	68-94	24-38	9-19
	32-40	Silty clay loam	CL	A-7-6, A-6	0	0	84-100	83-100	76-100	69-95	37-50	19-28
	40-60	Loamy sand, gravelly loamy sand	SM, SC	A-2-4, A-4	0	0	55-100	52-100	40-88	14-38	0-26	NP-9
	60-80	Sand, gravelly sand	SP-SM, SC-SM	A-3, A-2-4	0	0	56-100	53-100	41-83	6-18	0-22	NP-5

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
OTKA:												
Fallsington-----	0-2	Mucky peat	PT	A-8	0	0	84-100	83-100	66-100	45-74	---	---
	2-5	Loam	CL, ML, SM	A-4, A-7-6	0	0	84-100	83-100	66-100	45-74	20-45	3-18
	5-8	Sandy loam	SC	A-2-6, A-6	0	0	85-100	84-100	65-79	34-42	27-32	12-13
	8-14	Sandy loam	SC	A-2-6, A-6	0	0	85-100	84-100	65-79	34-42	27-32	12-13
	14-31	Sandy clay loam, loam	SC, CL	A-2-6, A-7-6, A-6	0	0	84-100	83-100	66-96	33-57	27-44	12-25
	31-62	Sand, loamy sand, sandy loam	SM, SC	A-2-6, A-2-4	0	0	80-100	79-100	62-94	13-32	0-30	NP-12
	62-80	Gravelly sand, gravelly loamy sand, gravelly sandy loam	SP-SM, SC	A-2-4, A-2-6	0	0	56-79	53-78	41-73	8-25	0-30	NP-12
OTMA:												
Othello---------	0-1	Mucky peat	PT	A-8	0	0	92-100	91-100	88-100	72-89	---	---
	1-13	Silt loam	CL-ML, CL	A-4, A-6	0	0	92-100	91-100	88-100	72-89	21-33	4-12
	13-32	Silt loam	CL	A-4, A-6	0	0	84-100	83-100	79-100	68-94	24-38	9-19
	32-40	Silty clay loam	CL	A-6, A-7-6	0	0	84-100	83-100	76-100	69-95	37-50	19-28
	40-60	Loamy sand, gravelly loamy sand	SM, SC-SM, SC	A-2-4, A-4	0	0	55-100	52-100	40-88	14-38	0-26	NP-9
	60-80	Sand, gravelly sand	SP-SM, SC-SM	A-2-4, A-2, A-3	0	0	56-100	53-100	41-83	6-18	0-22	NP-5
Fallsington-----	0-2	Mucky peat	PT	A-8	0	0	84-100	83-100	66-100	45-74	---	---
	2-5	Loam	CL, SM, ML	A-7-6, A-4	0	0	84-100	83-100	66-100	45-74	20-45	3-18
	5-8	Sandy loam	SC	A-2-6, A-6	0	0	85-100	84-100	65-79	34-42	27-32	12-13
	8-14	Sandy loam	SC	A-2-6, A-6	0	0	85-100	84-100	65-79	34-42	27-32	12-13
	14-31	Sandy clay loam, loam	SC, CL, SC-SM	A-6, A-2-6, A-7-6	0	0	84-100	83-100	66-96	33-57	27-44	12-25
	31-62	Sand, loamy sand, sandy loam	SM, SC	A-2-6, A-2-4	0	0	80-100	79-100	62-94	13-32	0-30	NP-12
	62-80	Gravelly sand, gravelly loamy sand, gravelly sandy loam	SP-SM, SC	A-2-4, A-2-6	0	0	56-79	53-78	41-73	8-25	0-30	NP-12
Trussum---------	0-12	Loam	CL, ML, CL-ML	A-4, A-6, A-7-6	0	0	100	100	77-97	53-73	20-45	3-18
	12-25	Loam	CL, ML, CL-ML	A-4, A-6	0	0	100	100	74-94	51-71	18-38	3-19
	25-35	Clay, silty clay loam	CL, CH	A-6, A-7-6	0	0	100	100	77-100	60-100	37-102	19-73
	35-60	Clay, silty clay loam	CH, CL	A-7-6, A-6	0	0	100	100	71-100	59-100	37-102	19-73
	60-66	Sandy clay loam, sandy clay, clay	CH, CL, SC	A-7-6, A-6, A-7	0	0	100	98-100	72-100	39-100	29-100	13-73
	66-72	Sandy clay loam, sandy clay, clay	SC, CL, CH	A-6, A-7-6	0	0	100	98-100	78-100	43-100	29-100	13-73

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
PEEAR:												
Pedricktown, rarely flooded-	0-2	Mucky peat	PT	A-8	0	0	84-100	83-100	75-100	61-83	---	---
	2-9	Silt loam	ML, CL-ML	A-4, A-7-5	0	0	84-100	83-100	75-100	61-83	25-46	4-12
	9-22	Sandy loam	SC	A-2-6, A-6	0	0	85-100	84-100	64-79	34-42	29-35	12-13
	22-36	Loamy sand	SM, SC	A-4, A-2-4	0	0	85-100	84-100	65-88	22-38	0-26	NP-9
	36-40	Sandy clay loam, sandy loam, loam	SC, SM, CL	A-6, A-2-4, A-7-6	0	0	84-100	83-100	59-99	25-58	18-44	3-25
	40-49	Sandy loam	SC	A-2-6, A-6	0	0	85-100	84-100	64-79	34-42	29-35	12-13
	49-56	Loamy sand	SM, SC	A-4, A-2-4	0	0	85-100	84-100	65-88	22-38	0-26	NP-9
	56-72	Sand, loamy sand	SP-SM, SM, SC	A-3, A-2-4	0	0	85-100	85-100	64-88	9-23	0-26	NP-9
Askecksy, rarely flooded--------	0-9	Loamy sand	SM	A-4, A-2-4	0	0	80-100	78-100	60-88	21-38	0-36	NP-9
	9-11	Sand	SP-SM, SC-SM	A-2-4, A-3	0	0	80-100	79-100	60-83	9-18	0-23	NP-5
	11-28	Sand, fine sand	SP-SM, SC-SM	A-2-4, A-3	0	0	80-100	79-100	60-83	9-18	0-23	NP-5
	28-31	Sand, coarse sand	SP-SM, SC-SM	A-2-4, A-3	0	0	80-100	79-100	60-83	9-18	0-23	NP-5
	31-80	Sand, coarse sand, gravelly sand, gravelly coarse sand	SP-SM, SC-SM	A-2-4, A-3	0	0	56-100	53-100	41-83	6-18	0-23	NP-5
Mullica, rarely flooded--------	0-2	Mucky peat	PT	A-8	0	0	79-100	78-100	58-83	28-45	---	---
	2-9	Sandy loam	SM	A-2-4, A-4	0	0	79-100	78-100	58-83	28-45	21-35	3-10
	9-14	Sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	79-100	78-100	56-81	29-46	19-31	3-10
	14-28	Sandy loam	SC-SM, SC, SM	A-2-4, A-4	0	0	79-100	78-100	56-81	29-46	19-31	3-10
	28-31	Loamy sand, sand, stratified sand to loamy sand	SM, SC	A-2-4, A-4	0	0	80-100	79-100	60-88	20-38	0-26	NP-9
	31-40	Sand, loamy sand, stratified sand to loamy sand	SP-SM, SC	A-2-4, A-3	0	0	80-100	79-100	60-88	9-23	0-26	NP-9
	40-80	Gravelly loamy sand, gravelly sand, loamy sand, sand	SM, SC, GM	A-4, A-1-b	0	0	53-95	53-95	40-83	14-36	0-25	NP-9
PHG:												
Pits, sand and gravel---------	---	---	---	---	---	---	---	---	---	---	---	---
PHM:												
Pits, clay------	---	---	---	---	---	---	---	---	---	---	---	---

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
SacA:												
Sassafras-------	0-12	Sandy loam	SM, SC, SC-SM	A-2-4, A-4	0	0	79-100	78-100	59-83	29-46	18-32	3-10
	12-18	Sandy loam, gravelly sandy loam	SC	A-2-6, A-6	0	0	54-100	52-100	38-81	19-44	27-32	12-13
	18-28	Sandy clay loam, gravelly sandy clay loam	SC, CL	A-2-6, A-7-6, A-6	0	0	53-100	51-100	40-93	23-58	29-43	13-24
	28-40	Loamy sand, sandy loam, gravelly loamy sand, gravelly sandy loam	SM, SC-SM, SC	A-2-4	0	0	55-100	52-100	40-89	11-35	0-28	NP-10
	40-58	Sand, loamy sand, sandy loam, gravelly sandy loam, gravelly loamy sand, gravelly sand	SM, SC, SP-SM	A-1-b, A-2-4, A-2-6	0	0	56-100	53-100	41-94	8-32	0-30	NP-12
	58-80	Sand, loamy sand, sandy loam, gravelly sandy loam, gravelly loamy sand, gravelly sand	SM, SC, SP-SM	A-1-b, A-2-4, A-2-6	0	0	56-100	53-100	41-94	8-32	0-30	NP-12
SacB:												
Sassafras-------	0-12	Sandy loam	SM, SC, SC-SM	A-2-4, A-4	0	0	79-100	78-100	59-83	29-46	18-32	3-10
	12-18	Sandy loam, gravelly sandy loam	SC	A-2-6, A-6	0	0	54-100	52-100	38-81	19-44	27-32	12-13
	18-28	Sandy clay loam, gravelly sandy clay loam	SC, CL	A-2-6, A-7-6, A-6	0	0	53-100	51-100	40-93	23-58	29-43	13-24
	28-40	Loamy sand, sandy loam, gravelly loamy sand, gravelly sandy loam	SC, SC-SM, SM	A-2-4	0	0	55-100	52-100	40-89	11-35	0-28	NP-10
	40-58	Sand, loamy sand, sandy loam, gravelly sandy loam, gravelly loamy sand, gravelly sand	SM, SP-SM, SC	A-1-b, A-2-4, A-2-6	0	0	56-100	53-100	41-94	8-32	0-30	NP-12
	58-80	Sand, loamy sand, sandy loam, gravelly sandy loam, gravelly loamy sand, gravelly sand	SM, SC, SP-SM	A-1-b, A-2-4, A-2-6	0	0	56-100	53-100	41-94	8-32	0-30	NP-12

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
SacC:												
Sassafras-------	0-12	Sandy loam	SC, SM, SC-SM	A-2-4, A-4	0	0	79-100	78-100	59-83	29-46	18-32	3-10
	12-18	Sandy loam, gravelly sandy loam	SC	A-2-6, A-6	0	0	54-100	52-100	38-81	19-44	27-32	12-13
	18-28	Sandy clay loam, gravelly sandy clay loam	SC, CL	A-2-6, A-7-6, A-6	0	0	53-100	51-100	40-93	23-58	29-43	13-24
	28-40	Loamy sand, sandy loam, gravelly loamy sand, gravelly sandy loam	SC, SC-SM, SM	A-2-4	0	0	55-100	52-100	40-89	11-35	0-28	NP-10
	40-58	Sand, loamy sand, sandy loam, gravelly sandy loam, gravelly loamy sand, gravelly sand	SM, SP-SM, SC	A-1-b, A-2-4, A-2-6	0	0	56-100	53-100	41-94	8-32	0-30	NP-12
	58-80	Sand, loamy sand, sandy loam, gravelly sandy loam, gravelly loamy sand, gravelly sand	SM, SC, SP-SM	A-1-b, A-2-4, A-2-6	0	0	56-100	53-100	41-94	8-32	0-30	NP-12
SafA:												
Sassafras-------	0-8	Loam	CL, SM, SC-SM	A-7-6, A-4	0	0	86-100	66-100	57-100	40-80	20-41	3-19
	8-12	Loam	CL, SC-SM, SM	A-7-6, A-4	0	0	86-100	66-100	57-100	39-79	20-41	3-19
	12-25	Sandy clay loam, loam, sandy loam	CL, SC, SC-SM	A-6, A-2-4, A-7-6	0	0	88-100	71-100	53-99	25-61	20-44	6-25
	25-31	Sandy clay loam, loam, sandy loam	SC-SM, SC, CL	A-7-6, A-2-4, A-6	0	0	88-100	71-100	52-98	25-60	20-44	6-25
	31-42	Gravelly sandy loam, fine sandy loam, sand, sandy loam	SC-SM, SC, SM	A-6, A-1-b	0	0	86-100	50-100	35-89	16-50	0-31	NP-13
	42-60	Gravelly loamy sand, sand, fine sandy loam, gravelly sandy loam	SC, SM	A-4, A-2-4	0	0	86-100	50-100	38-89	13-40	0-27	NP-10

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
SanA:												
Sassafras-------	0-12	Sandy loam	SC, SM, SC-SM	A-2-4, A-4	0	0	79-100	78-100	59-84	29-47	19-33	3-10
	12-18	Sandy loam, gravelly sandy loam	SC	A-2-6, A-6	0	0	54-100	52-100	38-81	19-44	27-32	12-13
	18-28	Sandy clay loam, gravelly sandy clay loam	SC, CL	A-7-6, A-2-6, A-6	0	0	53-100	51-100	40-93	23-58	29-43	13-24
	28-40	Loamy sand, sandy loam, gravelly loamy sand, gravelly sandy loam	SM, SC-SM, SC	A-2-4	0	0	55-100	52-100	40-89	11-35	0-28	NP-10
	40-58	Sand, loamy sand, sandy loam, gravelly sandy loam, gravelly loamy sand, gravelly sand	SM, SC, SP-SM	A-1-b, A-2-4, A-2-6	0	0	56-100	53-100	41-94	8-32	0-30	NP-12
	58-80	Sand, loamy sand, sandy loam, gravelly sandy loam, gravelly loamy sand, gravelly sand	SM, SC, SP-SM	A-1-b, A-2-4, A-2-6	0	0	56-100	53-100	41-94	8-32	0-30	NP-12
Woodstown-------	0-11	Sandy loam	SC-SM, SM, SC	A-6, A-2-4, A-1-b	0	0	89-100	69-100	49-87	24-49	18-35	2-13
	11-17	Sandy loam, sandy clay loam	SM, SC-SM, SC	A-2-4, A-1-b, A-6	0	0	91-100	66-100	45-83	20-45	16-32	2-13
	17-23	Sandy loam, sandy clay loam	SC, SC-SM, SM	A-1-b, A-6, A-2-6	0	0	91-100	66-100	41-78	17-40	16-32	2-13
	23-30	Sandy loam, sandy clay loam	SC-SM, SM, SC	A-1-b, A-2-4, A-6	0	0	91-100	66-100	44-82	20-45	16-32	2-13
	30-48	Sandy loam, sandy clay loam	SM, SC, SC-SM	A-1-b, A-2-4, A-6	0	0	91-100	66-100	45-83	20-45	16-32	2-13
	48-60	Loamy sand, stratified loamy sand to sandy loam	SC-SM, SC, SP-SM	A-1-b, A-2-4	0	0	84-100	59-100	43-85	11-30	0-27	NP-10

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
ShnA:												
Sharptown-------	0-10	Silt loam	CL-ML, CL	A-7-6, A-4	0	0	100	100	97-100	89-100	24-43	7-18
	10-20	Silt loam, silty clay loam	CL, CL-ML	A-4, A-7-6, A-6	0	0	94-100	83-100	73-100	70-100	22-49	7-28
	20-23	Silt loam, silty clay loam	CL-ML, CL	A-4, A-7-6, A-6	0	0	94-100	83-100	72-100	69-100	22-49	7-28
	23-38	Silt loam, silty clay loam	CL, CL-ML	A-4, A-7-6, A-6	0	0	94-100	83-100	74-100	71-100	22-49	7-28
	38-44	Loam, silty clay loam, silt loam	ML, CL	A-6, A-7-6, A-4	0	0	94-100	83-100	72-100	55-99	18-49	3-28
	44-46	Sandy loam, stratified sandy loam to silty clay loam	CL, SC, SM	A-2-4, A-7-6, A-4	0	0	95-100	84-100	53-100	22-65	0-49	NP-28
	46-50	Silt loam, stratified sandy loam to silty clay loam	ML, CL	A-4, A-7-6, A-6	0	0	95-100	84-100	64-100	60-100	0-49	NP-28
	50-58	Loam, silt loam, stratified sandy loam to silty clay loam	ML, CL	A-7-6, A-6, A-4	0	0	95-100	84-100	68-100	50-99	0-49	NP-28
	58-72	Silt loam, stratified sandy loam to silty clay loam	ML, CL	A-7-6, A-4, A-6	0	0	95-100	84-100	64-100	60-100	0-49	NP-28
ShnB:												
Sharptown-------	0-10	Silt loam	CL, CL-ML	A-7-6, A-4	0	0	100	100	97-100	89-100	24-43	7-18
	10-20	Silt loam, silty clay loam	CL, CL-ML	A-4, A-7-6, A-6	0	0	94-100	83-100	73-100	70-100	22-49	7-28
	20-23	Silt loam, silty clay loam	CL-ML, CL	A-4, A-7-6, A-6	0	0	94-100	83-100	72-100	69-100	22-49	7-28
	23-38	Silt loam, silty clay loam	CL, CL-ML	A-4, A-7-6, A-6	0	0	94-100	83-100	74-100	71-100	22-49	7-28
	38-44	Loam, silty clay loam, silt loam	CL, ML	A-6, A-4, A-7-6	0	0	94-100	83-100	72-100	55-99	18-49	3-28
	44-46	Sandy loam, stratified sandy loam to silty clay loam	CL, SM, SC	A-4, A-7-6, A-2-4	0	0	95-100	84-100	53-100	22-65	0-49	NP-28
	46-50	Silt loam, stratified sandy loam to silty clay loam	CL, ML	A-7-6, A-4, A-6	0	0	95-100	84-100	64-100	60-100	0-49	NP-28
	50-58	Loam, silt loam, stratified sandy loam to silty clay loam	CL, ML	A-6, A-7-6, A-4	0	0	95-100	84-100	68-100	50-99	0-49	NP-28
	58-72	Silt loam, stratified sandy loam to silty clay loam	CL, ML	A-7-6, A-4, A-6	0	0	95-100	84-100	64-100	60-100	0-49	NP-28

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
SwtB:												
Swedesboro------	0-10	Loamy sand	SM, SC	A-4, A-2-4	0	0	95-100	85-100	64-89	22-40	0-31	NP-10
	10-14	Loamy sand, sandy clay loam, fine sandy loam, sandy loam	CL, SM, SC-SM	A-2-4, A-7-6	0	0	95-100	86-100	62-100	14-51	0-44	NP-25
	14-26	Sandy loam, fine sandy loam, sandy clay loam	SC, SM	A-6, A-2-4, A-2-6	0	0	95-100	86-100	51-79	19-41	0-32	NP-13
	26-30	Sandy clay loam, fine sandy loam, sandy loam	SC, CL, SM	A-6, A-2-4, A-7-6	0	0	95-100	86-100	56-99	23-61	0-44	NP-25
	30-40	Fine sandy loam, loamy sand, loamy fine sand	SM, SC	A-6, A-2-4	0	0	95-100	86-100	66-96	21-44	0-32	NP-13
	40-46	Loamy fine sand, loamy sand	SC, SM	A-2-4, A-4	0	0	95-100	86-100	78-100	27-45	0-27	NP-10
	46-54	Sand	SC-SM, SP-SM	A-2-4, A-3	0	0	91-100	80-100	60-84	5-16	0-23	NP-6
	54-72	Sand	SP-SM, SC-SM	A-3, A-2-4	0	0	91-100	80-100	60-84	5-16	0-23	NP-6
SwtC:												
Swedesboro------	0-10	Loamy sand	SM, SC	A-2-4, A-4	0	0	95-100	85-100	64-89	22-40	0-31	NP-10
	10-14	Loamy sand, sandy clay loam, fine sandy loam, sandy loam	SM, SC-SM, CL	A-2-4, A-7-6	0	0	95-100	86-100	62-100	14-51	0-44	NP-25
	14-26	Sandy loam, fine sandy loam, sandy clay loam	SM, SC, SC-SM	A-2-6, A-6, A-2-4	0	0	95-100	86-100	51-79	19-41	0-32	NP-13
	26-30	Sandy clay loam, fine sandy loam, sandy loam	SC, SM, CL	A-6, A-7-6, A-2-4	0	0	95-100	86-100	56-99	23-61	0-44	NP-25
	30-40	Fine sandy loam, loamy sand, loamy fine sand	SM, SC	A-2-4, A-6	0	0	95-100	86-100	66-96	21-44	0-32	NP-13
	40-46	Loamy fine sand, loamy sand	SC, SM	A-4, A-2-4	0	0	95-100	86-100	78-100	27-45	0-27	NP-10
	46-54	Sand	SC-SM, SP-SM	A-2-4, A-3, A-2	0	0	91-100	80-100	60-84	5-16	0-23	NP-6
	54-72	Sand	SC-SM, SP-SM	A-3, A-2-4, A-2	0	0	91-100	80-100	60-84	5-16	0-23	NP-6
TrkAv:												
Transquaking, very frequently flooded--------	0-14	Mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	14-30	Mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	30-45	Mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	45-70	Mucky peat	PT	A-8	0	0	100	100	100	100	---	---
	70-90	Muck	PT	A-8	0	0	100	100	100	100	---	---

Table 18.--Engineering Index Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number-- 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
UddfB:												
Udorthents, dredged fine materials------	0-12	Loam	CL-ML, ML	A-4, A-7-6	0	0	100	85-95	71-95	49-74	22-45	3-18
	12-72	Clay, sandy clay loam, silty clay loam	SC, CH	A-7-6, A-6	0	0	89-100	74-100	51-100	42-100	33-73	17-51
UdrB:												
Udorthents, refuse substratum-----	0-60	Silt loam	ML, CL-ML	A-4, A-7-6	0	0	100	100	93-100	85-100	28-47	7-18
UdsB:												
Udorthents, sandy substratum-----	0-12	Loam	CL-ML, ML	A-4, A-7-6	0	0	100	85-95	71-95	49-74	22-45	3-18
	12-72	Very gravelly sand, gravelly sand, fine sandy loam, loamy sand	SC-SM, SP	A-1-b, A-2-4, A-1-a	0	0-8	68-100	30-100	23-85	2-16	0-23	NP-6
WoeA:												
Woodstown-------	0-8	Sandy loam	SM, SC-SM	A-2-4, A-4	0	0	80-100	78-100	58-81	29-44	18-28	2-7
	8-26	Sandy loam	SC, SM	A-6, A-2-4, A-4	0	0	80-100	78-100	53-82	24-46	16-32	2-13
	26-30	Sandy clay loam	SC, CL, SC-SM	A-7-6, A-6, A-2-6	0	0	79-100	77-100	63-96	34-59	29-43	13-24
	30-36	Sandy loam	SC, SM	A-6, A-4, A-2-4	0	0	80-100	78-100	53-82	24-46	16-31	2-13
	36-80	Loamy sand, sand, gravelly loamy sand, gravelly sand	SM, SC	A-2-4	0	0	56-100	52-100	39-86	11-33	0-26	NP-9

Table 19.--Physical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K_{sat})	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
AdkB:														
Adelphia------------	0-10	43-85	1-50	5-25	1.40-1.60	0.6-6	0.14-0.21	0.0-2.9	0.5-3.0	.32	.32	5	3	86
	10-14	43-85	1-50	5-25	1.40-1.60	0.6-6	0.14-0.21	0.0-2.9	0.5-3.0	.32	.32			
	14-56	45-80	1-28	20-35	1.50-1.70	0.2-2	0.13-0.18	0.0-2.9	0.0-0.0	.43	.43			
	56-72	70-90	1-30	5-15	1.50-1.70	0.6-20	0.07-0.15	0.0-2.9	0.0-0.0	.20	.20			
AhmB:														
Alloway-------------	0-10	43-85	1-50	10-26	1.20-1.45	2-6	0.16-0.20	0.0-2.9	1.0-3.0	.43	.43	5	3	86
	10-18	23-52	28-50	10-26	1.20-1.45	2-6	0.16-0.20	0.0-2.9	0.0-1.0	.43	.43			
	18-24	1-80	10-73	27-40	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	24-39	1-80	1-40	25-70	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	39-49	1-80	1-40	25-70	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	49-72	1-80	1-40	25-70	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
AhpB:														
Alloway-------------	0-10	23-52	28-50	7-27	1.20-1.45	2-6	0.16-0.20	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-18	23-52	28-50	7-27	1.20-1.45	2-6	0.16-0.20	0.0-2.9	0.0-1.0	.43	.43			
	18-24	1-80	10-73	27-40	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	24-39	1-80	1-40	27-80	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	39-49	1-80	1-40	27-80	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	49-72	1-80	1-40	27-80	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
AhpC:														
Alloway-------------	0-10	23-52	28-50	7-27	1.20-1.45	2-6	0.16-0.20	0.0-2.9	0.8-2.5	.43	.43	5	5	56
	10-18	23-52	28-50	7-27	1.20-1.45	2-6	0.16-0.20	0.0-2.9	0.0-1.0	.43	.43			
	18-24	1-80	10-73	27-40	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	24-39	1-80	1-40	27-80	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	39-49	1-80	1-40	27-80	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	49-72	1-80	1-40	27-80	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
AhrA:														
Alloway-------------	0-11	20-50	50-80	12-27	1.10-1.30	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	11-18	1-80	1-73	27-40	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	18-24	1-80	1-73	27-40	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	24-32	1-80	1-73	27-80	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	32-39	1-80	1-73	27-80	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	39-48	1-80	1-73	27-80	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	48-65	1-80	1-73	27-80	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	65-80	1-80	1-73	27-80	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (K_{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
AhrB:														
Alloway-------------	0-11	20-50	50-80	12-27	1.10-1.30	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5	6	48
	11-18	1-80	1-73	27-40	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	18-24	1-80	1-73	27-40	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	24-32	1-80	1-73	27-80	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	32-39	1-80	1-73	27-80	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	39-48	1-80	1-73	27-80	1.10-1.30	0.6-2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	48-65	1-80	1-73	27-80	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
	65-80	1-80	1-73	27-80	1.10-1.30	0.2-0.6	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
ApbAv:														
Appoquinimink, very frequently flooded-	0-6	6-50	50-80	12-27	0.50-1.20	0.2-2	0.10-0.25	3.0-5.9	3.0-18	.37	.37	5	8	0
	6-21	10-50	50-80	12-27	0.50-1.70	0.2-2	0.15-0.25	3.0-5.9	2.0-12	.43	.43			
	21-32	10-50	50-80	12-27	0.50-1.70	0.2-2	0.15-0.25	3.0-5.9	2.0-12	.43	.43			
	32-43	0-50	0-80	0-27	0.13-0.23	0.6-2	0.35-0.45	---	70-100	.05	.05			
	43-80	0-50	0-80	0-27	0.13-0.23	2-6	0.35-0.45	---	70-100	.05	.05			
Broadkill, very frequently flooded-	0-6	0-50	0-80	0-27	0.10-0.60	2-20	0.30-0.60	---	20-40	.02	.02	5	8	0
	6-10	10-50	50-80	12-27	1.40-1.70	0.2-2	0.10-0.20	0.0-2.9	2.0-10	.28	.28			
	10-30	10-50	50-80	12-27	1.40-1.70	0.2-2	0.10-0.20	0.0-2.9	2.0-10	.28	.28			
	30-45	5-98	5-73	5-40	1.30-1.70	0.2-20	0.10-0.35	0.0-2.9	0.5-20	.32	.32			
	45-72	5-98	1-50	1-40	1.30-1.70	0.2-20	0.10-0.35	0.0-2.9	0.5-20	.32	.32			
AucB:														
Aura----------------	0-7	71-89	4-29	3-11	1.55-1.65	2-20	0.05-0.08	0.0-2.9	0.5-2.0	.20	.20	3	2	134
	7-22	55-75	15-40	8-17	1.50-1.60	2-6	0.09-0.13	0.0-2.9	0.0-0.2	.24	.28			
	22-28	55-75	15-40	8-17	1.50-1.60	0.2-0.6	0.05-0.13	0.0-2.9	0.0-0.2	.20	.28			
	28-59	46-79	10-35	20-34	1.45-1.55	0.2-0.6	0.07-0.16	0.0-2.9	0.0-0.2	.20	.32			
	59-80	75-86	2-40	2-17	1.55-1.80	2-20	0.02-0.13	0.0-2.9	0.0-0.0	.15	.20			
AugB:														
Aura----------------	0-8	55-75	15-40	8-16	1.50-1.60	2-6	0.09-0.13	0.0-2.9	0.8-2.5	.24	.28	3	3	86
	8-13	55-75	15-40	8-17	1.50-1.60	2-6	0.09-0.13	0.0-2.9	0.0-0.2	.24	.28			
	13-22	55-75	15-40	8-17	1.50-1.60	2-6	0.09-0.13	0.0-2.9	0.0-0.2	.24	.28			
	22-28	55-75	15-40	8-17	1.60-1.70	0.2-0.6	0.05-0.13	0.0-2.9	0.0-0.2	.20	.28			
	28-44	46-79	10-35	20-34	1.55-1.65	0.2-0.6	0.07-0.16	0.0-2.9	0.0-0.2	.20	.32			
	44-59	46-79	10-35	20-34	1.55-1.65	0.2-0.6	0.07-0.16	0.0-2.9	0.0-0.2	.20	.32			
	59-80	75-86	2-40	2-17	1.55-1.80	2-20	0.02-0.13	0.0-2.9	0.0-0.0	.15	.20			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K_{sat})	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
AugC:														
Aura----------------	0-8	55-75	15-40	8-16	1.50-1.60	2-6	0.09-0.13	0.0-2.9	0.8-2.5	.24	.28	3	3	86
	8-13	55-75	15-40	8-17	1.50-1.60	2-6	0.09-0.13	0.0-2.9	0.0-0.2	.24	.28			
	13-22	55-75	15-40	8-17	1.50-1.60	2-6	0.09-0.13	0.0-2.9	0.0-0.2	.24	.28			
	22-28	55-75	15-40	8-17	1.60-1.70	0.2-0.6	0.05-0.13	0.0-2.9	0.0-0.2	.20	.28			
	28-44	46-79	10-35	20-34	1.55-1.65	0.2-0.6	0.07-0.16	0.0-2.9	0.0-0.2	.20	.32			
	44-59	46-79	10-35	20-34	1.55-1.65	0.2-0.6	0.07-0.16	0.0-2.9	0.0-0.2	.20	.32			
	59-80	75-86	2-40	2-17	1.55-1.80	2-20	0.02-0.13	0.0-2.9	0.0-0.0	.15	.20			
AuhB:														
Aura----------------	0-8	43-85	1-49	7-16	1.18-1.60	0.6-6	0.12-0.17	0.0-2.9	0.8-2.5	.28	.28	3	5	56
	8-12	43-85	1-49	7-16	1.18-1.60	0.6-6	0.12-0.17	0.0-2.9	0.4-1.4	.28	.28			
	12-20	45-80	1-27	15-35	1.50-1.70	0.2-6	0.07-0.15	0.0-2.9	0.1-0.3	.28	.32			
	20-36	45-80	1-27	15-35	1.50-1.70	0.2-0.6	0.07-0.15	0.0-2.9	0.1-0.3	.28	.32			
	36-40	85-98	1-14	3-32	1.45-1.65	0.2-20	0.02-0.13	0.0-2.9	0.1-0.3	.15	.17			
	40-72	85-98	1-14	3-32	1.45-1.65	0.2-20	0.02-0.13	0.0-2.9	0.1-0.3	.15	.17			
AuhC:														
Aura----------------	0-8	43-85	1-49	7-16	1.18-1.60	0.6-6	0.12-0.17	0.0-2.9	0.8-2.5	.28	.28	3	5	56
	8-12	43-85	1-49	7-16	1.18-1.60	0.6-6	0.12-0.17	0.0-2.9	0.4-1.4	.28	.28			
	12-20	45-80	1-27	15-35	1.50-1.70	0.2-6	0.07-0.15	0.0-2.9	0.1-0.3	.28	.32			
	20-36	45-80	1-27	15-35	1.50-1.70	0.2-0.6	0.07-0.15	0.0-2.9	0.1-0.3	.28	.32			
	36-40	85-98	1-14	3-32	1.45-1.65	0.2-20	0.02-0.13	0.0-2.9	0.1-0.3	.15	.17			
	40-72	85-98	1-14	3-32	1.45-1.65	0.2-20	0.02-0.13	0.0-2.9	0.1-0.3	.15	.17			
AupA:														
Aura----------------	0-8	23-52	28-50	7-15	1.20-1.50	2-6	0.12-0.17	0.0-2.9	1.0-3.0	.32	.32	3	5	56
	8-13	55-75	15-40	8-17	1.50-1.60	2-6	0.09-0.13	0.0-2.9	0.0-0.2	.24	.28			
	13-22	55-75	15-40	8-17	1.50-1.60	2-6	0.09-0.13	0.0-2.9	0.0-0.2	.24	.28			
	22-28	55-75	15-40	8-17	1.60-1.70	0.2-0.6	0.05-0.13	0.0-2.9	0.0-0.2	.20	.28			
	28-44	46-79	10-35	20-34	1.55-1.65	0.2-0.6	0.07-0.16	0.0-2.9	0.0-0.2	.20	.32			
	44-59	46-79	10-35	20-34	1.55-1.65	0.2-0.6	0.07-0.16	0.0-2.9	0.0-0.2	.20	.32			
	59-80	75-86	2-40	2-17	1.55-1.80	2-20	0.02-0.13	0.0-2.9	0.0-0.0	.15	.20			
AupB:														
Aura----------------	0-8	23-52	28-50	8-17	1.20-1.50	2-6	0.12-0.17	0.0-2.9	1.0-3.0	.32	.32	3	5	56
	8-13	55-75	15-40	8-17	1.50-1.60	2-6	0.09-0.13	0.0-2.9	0.0-0.2	.24	.28			
	13-22	55-75	15-40	8-17	1.50-1.60	2-6	0.09-0.13	0.0-2.9	0.0-0.2	.24	.28			
	22-28	55-75	15-40	8-17	1.60-1.70	0.2-0.6	0.05-0.13	0.0-2.9	0.0-0.2	.20	.28			
	28-44	46-79	10-35	20-34	1.55-1.65	0.2-0.6	0.07-0.16	0.0-2.9	0.0-0.2	.20	.32			
	44-59	46-79	10-35	20-34	1.55-1.65	0.2-0.6	0.07-0.16	0.0-2.9	0.0-0.2	.20	.32			
	59-80	75-86	2-40	2-17	1.55-1.80	2-20	0.02-0.13	0.0-2.9	0.0-0.0	.15	.20			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (K_{sat})	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
BEXAS:														
Berryland, occasionally flooded-----------	0-11	85-96	2-12	2-9	1.00-1.30	6-20	0.05-0.08	0.0-2.9	2.0-4.0	.10	.10	5	1	220
	11-19	70-96	2-25	2-14	1.55-1.70	2-20	0.03-0.08	0.0-2.9	0.0-0.5	.10	.10			
	19-32	70-96	2-25	2-14	1.55-1.70	2-20	0.03-0.08	0.0-2.9	0.0-0.0	.10	.10			
	32-40	70-96	2-25	2-14	1.55-1.70	2-20	0.03-0.08	0.0-2.9	0.0-0.5	.05	.10			
	40-44	70-96	2-25	2-14	1.40-1.60	2-20	0.03-0.08	0.0-2.9	0.0-0.0	.10	.10			
	44-80	60-96	0-30	2-15	1.40-1.60	2-20	0.03-0.13	0.0-2.9	0.0-0.0	.17	.17			
Mullica, occasionally flooded-----------	0-2	0-80	0-42	0-15	0.13-0.23	2-6	0.35-0.65	---	70-100	.05	.05	5	5	56
	2-9	55-80	5-42	6-15	1.50-1.60	0.6-6	0.10-0.20	0.0-2.9	2.0-4.0	.28	.28			
	9-14	55-80	5-42	6-15	1.50-1.60	0.6-6	0.10-0.13	0.0-2.9	1.0-2.0	.28	.28			
	14-28	55-80	5-42	6-15	1.50-1.60	0.6-6	0.10-0.13	0.0-2.9	1.0-2.0	.28	.28			
	28-31	70-96	2-25	2-14	1.55-1.70	6-20	0.02-0.10	0.0-2.9	0.1-0.5	.10	.10			
	31-40	70-96	2-25	2-14	1.55-1.70	6-20	0.02-0.10	0.0-2.9	0.1-0.5	.10	.10			
	40-80	70-96	2-25	2-14	1.55-1.70	6-20	0.02-0.08	0.0-2.9	0.0-0.0	.05	.10			
ChsAt:														
Chicone, frequently flooded-----------	0-5	20-50	50-80	12-18	1.45-1.55	0.2-2	0.15-0.30	0.0-2.9	2.0-5.0	.37	.37	5	5	56
	5-20	20-50	50-80	12-18	1.45-1.55	0.2-2	0.10-0.18	0.0-2.9	0.0-2.0	.43	.43			
	20-28	20-52	28-80	7-18	1.45-1.55	0.2-2	0.10-0.18	0.0-2.9	0.0-2.0	.43	.43			
	28-65	0-96	0-25	0-14	0.13-0.23	2-6	0.35-0.65	---	70-100	.05	.05			
	65-80	70-96	2-25	2-14	1.55-1.70	2-20	0.05-0.10	0.0-2.9	0.0-1.0	.10	.10			
ChtA:														
Chillum------------	0-10	5-50	50-80	12-27	1.10-1.30	0.6-2	0.19-0.21	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	10-15	5-50	50-80	12-27	1.10-1.30	0.6-2	0.19-0.22	0.0-2.9	0.0-0.5	.37	.37			
	15-28	5-50	50-80	12-27	1.10-1.30	0.6-2	0.19-0.22	0.0-2.9	0.0-0.5	.37	.37			
	28-34	5-50	50-80	12-27	1.10-1.30	0.6-2	0.19-0.22	0.0-2.9	0.0-0.5	.37	.37			
	34-38	23-52	28-50	7-27	1.20-1.60	0.2-2	0.16-0.22	0.0-2.9	0.0-0.5	.37	.37			
	38-61	43-85	1-50	1-20	1.20-1.50	0.2-2	0.03-0.12	0.0-2.9	0.0-0.5	.17	.24			
	61-66	43-85	1-50	1-20	1.20-1.50	0.2-2	0.03-0.12	0.0-2.9	0.0-0.5	.17	.24			
	66-72	85-98	1-30	1-10	1.40-1.75	0.6-20	0.03-0.15	0.0-2.9	0.0-0.5	.15	.15			
ChtB:														
Chillum------------	0-10	5-50	50-80	12-27	1.10-1.30	0.6-2	0.19-0.21	0.0-2.9	1.0-3.0	.43	.43	4	5	56
	10-15	5-50	50-80	12-27	1.10-1.30	0.6-2	0.19-0.22	0.0-2.9	0.0-0.5	.37	.37			
	15-28	5-50	50-80	12-27	1.10-1.30	0.6-2	0.19-0.22	0.0-2.9	0.0-0.5	.37	.37			
	28-34	5-50	50-80	12-27	1.10-1.30	0.6-2	0.19-0.22	0.0-2.9	0.0-0.5	.37	.37			
	34-38	23-52	28-50	7-27	1.20-1.60	0.2-2	0.16-0.22	0.0-2.9	0.0-0.5	.37	.37			
	38-61	43-85	1-50	1-20	1.20-1.50	0.2-2	0.03-0.12	0.0-2.9	0.0-0.5	.17	.24			
	61-66	43-85	1-50	1-20	1.20-1.50	0.2-2	0.03-0.12	0.0-2.9	0.0-0.5	.17	.24			
	66-72	85-98	1-30	1-10	1.40-1.75	0.6-20	0.03-0.15	0.0-2.9	0.0-0.5	.15	.15			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (K_{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
DocB:														
Downer--------------	0-10	71-89	4-29	3-14	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-2.0	.20	.20	5	2	134
	10-16	71-89	4-29	3-14	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.20	.20			
	16-36	55-80	5-42	6-15	1.50-1.60	0.6-6	0.12-0.17	0.0-2.9	0.0-0.2	.28	.28			
	36-48	55-89	4-42	3-15	1.55-1.70	2-20	0.03-0.20	0.0-2.9	0.0-0.0	.15	.20			
	48-80	55-96	1-42	2-15	1.50-1.70	2-20	0.04-0.14	0.0-2.9	0.0-0.0	.15	.20			
DocC:														
Downer--------------	0-10	71-89	4-29	3-14	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-2.0	.20	.20	5	2	134
	10-16	71-89	4-29	3-14	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.20	.20			
	16-36	55-80	5-42	6-15	1.50-1.60	0.6-6	0.12-0.17	0.0-2.9	0.0-0.2	.28	.28			
	36-48	55-89	4-42	3-15	1.55-1.70	2-20	0.03-0.20	0.0-2.9	0.0-0.0	.15	.20			
	48-80	55-96	1-42	2-15	1.50-1.70	2-20	0.04-0.14	0.0-2.9	0.0-0.0	.15	.20			
DoeA:														
Downer--------------	0-10	55-80	5-42	5-12	1.50-1.60	0.6-6	0.10-0.14	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	10-16	55-80	5-42	6-15	1.55-1.65	0.6-6	0.10-0.14	0.0-2.9	0.0-0.2	.28	.28			
	16-36	55-80	5-42	6-15	1.50-1.60	0.6-6	0.10-0.13	0.0-2.9	0.0-0.2	.28	.28			
	36-48	55-89	4-42	3-15	1.55-1.70	2-20	0.03-0.20	0.0-2.9	0.0-0.0	.15	.20			
	48-80	55-96	1-42	2-15	1.50-1.70	2-20	0.04-0.14	0.0-2.9	0.0-0.0	.15	.20			
DoeB:														
Downer--------------	0-10	55-80	5-42	5-12	1.50-1.60	0.6-6	0.10-0.14	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	10-16	55-80	5-42	6-15	1.55-1.65	0.6-6	0.10-0.14	0.0-2.9	0.0-0.2	.28	.28			
	16-36	55-80	5-42	6-15	1.50-1.60	0.6-6	0.10-0.13	0.0-2.9	0.0-0.2	.28	.28			
	36-48	55-89	4-42	3-15	1.55-1.70	2-20	0.03-0.20	0.0-2.9	0.0-0.0	.15	.20			
	48-80	55-96	1-42	2-15	1.50-1.70	2-20	0.04-0.14	0.0-2.9	0.0-0.0	.15	.20			
DopB:														
Downer--------------	0-10	71-89	4-29	3-14	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.5-2.0	.20	.20	4	2	134
	10-16	71-89	4-29	3-14	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.20	.20			
	16-36	55-80	5-42	6-15	1.50-1.60	0.6-6	0.12-0.17	0.0-2.9	0.0-0.2	.28	.28			
	36-48	55-89	4-42	3-15	1.55-1.70	2-20	0.03-0.20	0.0-2.9	0.0-0.0	.15	.20			
	48-80	55-96	1-42	2-15	1.50-1.70	2-20	0.04-0.14	0.0-2.9	0.0-0.0	.15	.20			
Galestown-----------	0-10	70-90	1-30	4-10	1.50-1.70	6-20	0.06-0.08	0.0-2.9	0.5-2.0	.17	.17	5	2	134
	10-50	70-90	1-30	4-10	1.50-1.70	6-20	0.04-0.08	0.0-2.9	0.0-0.5	.17	.17			
	50-72	70-90	1-30	2-6	1.50-1.65	6-20	0.04-0.08	0.0-2.9	0.0-0.5	.17	.20			
DouB:														
Downer--------------	0-10	55-89	4-42	3-15	1.55-1.65	2-20	0.10-0.14	0.0-2.9	1.0-2.0	.20	.20	5	3	86
	10-16	55-80	5-42	6-15	1.55-1.65	0.6-6	0.10-0.14	0.0-2.9	0.0-0.2	.28	.28			
	16-36	55-80	5-42	6-15	1.50-1.60	0.6-6	0.10-0.13	0.0-2.9	0.0-0.2	.28	.28			
	36-48	55-89	4-42	3-15	1.55-1.70	2-20	0.03-0.20	0.0-2.9	0.0-0.0	.15	.20			
	48-80	55-96	1-42	2-15	1.50-1.70	2-20	0.04-0.14	0.0-2.9	0.0-0.0	.15	.20			
Urban land----------	---	---	---	---	---	---	---	---	---	---	---	--	8	0

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (K_{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
EveB:														
Evesboro------------	0-4	85-96	2-12	2-9	1.60-1.70	6-20	0.04-0.09	0.0-2.9	0.5-1.5	.10	.10	5	1	220
	4-17	85-96	2-12	2-9	1.60-1.70	6-20	0.04-0.09	0.0-2.9	0.0-0.0	.15	.15			
	17-31	70-96	2-25	2-14	1.55-1.70	6-20	0.04-0.09	0.0-2.9	0.0-0.0	.15	.15			
	31-80	43-96	2-45	2-15	1.50-1.70	2-20	0.04-0.09	0.0-2.9	0.0-0.0	.17	.17			
EveC:														
Evesboro------------	0-4	85-96	2-12	2-9	1.60-1.70	6-20	0.04-0.09	0.0-2.9	0.5-1.5	.10	.10	5	1	220
	4-17	85-96	2-12	2-9	1.60-1.70	6-20	0.04-0.09	0.0-2.9	0.0-0.0	.15	.15			
	17-31	70-96	2-25	2-14	1.55-1.70	6-20	0.04-0.09	0.0-2.9	0.0-0.0	.15	.15			
	31-80	43-96	2-45	2-15	1.50-1.70	2-20	0.04-0.09	0.0-2.9	0.0-0.0	.17	.17			
FmhAt:														
Fluvaquents, loamy, frequently flooded-	0-5	23-52	28-50	7-27	1.20-1.40	0.6-2	0.16-0.20	0.0-2.9	2.0-4.0	.32	.32	5	5	56
	5-12	20-50	50-80	12-27	1.30-1.50	0.6-2	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43			
	12-18	45-80	5-25	20-35	1.20-1.50	0.6-2	0.12-0.18	3.0-5.9	0.0-0.5	.32	.37			
	18-24	45-80	5-25	20-35	1.20-1.50	0.6-2	0.12-0.18	3.0-5.9	0.0-0.5	.32	.37			
	24-60	43-85	10-45	5-15	1.20-1.70	2-6	0.04-0.08	0.0-2.9	0.0-0.5	.10	.17			
FodB:														
Fort Mott-----------	0-8	70-90	1-30	1-15	1.25-1.60	6-20	0.05-0.10	0.0-2.9	0.5-2.0	.20	.20	5	2	134
	8-30	70-90	1-30	1-15	1.25-1.60	6-20	0.05-0.10	0.0-2.9	0.5-2.0	.20	.20			
	30-33	43-85	1-50	1-20	1.25-1.80	0.6-6	0.12-0.16	0.0-2.9	0.1-0.5	.32	.32			
	33-49	43-85	1-50	1-20	1.25-1.80	0.6-6	0.12-0.16	0.0-2.9	0.1-0.5	.32	.32			
	49-72	70-90	1-30	1-15	1.30-1.80	6-20	0.03-0.12	0.0-2.9	0.1-0.5	.17	.20			
GabB:														
Galestown-----------	0-10	85-100	1-15	4-10	1.50-1.70	6-20	0.06-0.08	0.0-2.9	0.5-2.0	.15	.15	5	1	220
	10-23	70-90	1-30	4-15	1.50-1.70	6-20	0.04-0.08	0.0-2.9	0.0-0.5	.20	.20			
	23-30	70-90	1-30	4-15	1.50-1.70	6-20	0.04-0.08	0.0-2.9	0.0-0.5	.20	.20			
	30-38	70-90	1-30	4-15	1.50-1.70	6-20	0.04-0.08	0.0-2.9	0.0-0.5	.20	.20			
	38-60	85-98	1-15	4-10	1.50-1.70	6-20	0.04-0.08	0.0-2.9	0.0-0.5	.20	.20			
GamB:														
Galloway------------	0-2	70-90	1-30	2-15	1.00-1.40	6-20	0.06-0.11	0.0-2.9	1.0-3.0	.17	.17	5	2	134
	2-10	70-90	1-30	2-15	1.00-1.40	6-20	0.06-0.11	0.0-2.9	0.0-0.2	.17	.17			
	10-24	70-90	1-30	2-15	1.00-1.40	6-20	0.06-0.11	0.0-2.9	0.1-0.2	.17	.17			
	24-36	70-90	1-30	2-15	1.00-1.40	6-20	0.06-0.11	0.0-2.9	0.1-0.2	.17	.17			
	36-52	85-98	1-15	2-10	1.30-1.50	6-20	0.06-0.08	0.0-2.9	0.1-0.2	.15	.15			
	52-60	85-98	1-15	2-10	1.30-1.50	6-20	0.06-0.08	0.0-2.9	0.1-0.2	.15	.15			
HbmB:														
Hammonton-----------	0-8	71-89	4-29	3-14	1.55-1.65	6-20	0.10-0.14	0.0-2.9	1.0-3.0	.20	.20	5	2	134
	8-18	71-89	4-29	3-14	1.55-1.65	2-20	0.10-0.14	0.0-2.9	0.2-0.8	.20	.20			
	18-36	55-80	5-42	6-15	1.50-1.60	2-6	0.10-0.14	0.0-2.9	0.2-0.8	.28	.28			
	36-80	70-96	2-20	2-14	1.55-1.70	6-20	0.08-0.13	0.0-2.9	0.0-0.0	.10	.10			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (K_{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
HboA:														
Hammonton-----------	0-8	43-85	1-50	5-20	1.20-1.60	2-6	0.10-0.14	0.0-2.9	1.0-3.0	.32	.32	5	3	86
	8-18	43-85	1-50	5-20	1.20-1.60	2-6	0.10-0.14	0.0-2.9	0.1-0.5	.32	.32			
	18-36	43-85	1-50	5-20	1.45-1.65	2-6	0.08-0.13	0.0-2.9	0.1-0.5	.32	.32			
	36-60	85-98	1-30	2-10	1.40-1.75	0.6-20	0.03-0.15	0.0-2.9	0.1-0.5	.15	.15			
HbrB:														
Hammonton-----------	0-8	71-89	4-29	3-14	1.55-1.65	6-20	0.10-0.14	0.0-2.9	1.0-3.0	.20	.20	5	2	134
	8-18	71-89	4-29	3-14	1.55-1.65	2-20	0.10-0.14	0.0-2.9	0.2-0.8	.20	.20			
	18-36	55-80	5-42	6-15	1.50-1.60	2-6	0.10-0.14	0.0-2.9	0.2-0.8	.28	.28			
	36-80	70-96	2-20	2-14	1.55-1.70	6-20	0.08-0.13	0.0-2.9	0.0-0.0	.10	.10			
Urban land----------	---	---	---	---	---	---	---	---	---	---	---	--	8	0
KeoC:														
Keyport-------------	0-10	23-52	28-50	7-27	1.20-1.60	0.2-2	0.16-0.22	0.0-2.9	1.0-3.0	.37	.37	3	5	56
	10-16	23-52	28-50	7-27	1.20-1.60	0.2-2	0.16-0.22	0.0-2.9	1.0-3.0	.37	.37			
	16-24	20-45	15-53	27-40	1.35-1.60	0.00-0.2	0.14-0.20	3.0-5.9	0.0-0.5	.43	.43			
	24-38	20-45	15-53	27-40	1.35-1.60	0.00-0.2	0.14-0.20	3.0-5.9	0.0-0.5	.43	.43			
	38-60	20-45	15-53	27-40	1.35-1.60	0.00-0.2	0.14-0.20	3.0-5.9	0.0-0.5	.43	.43			
MakAt:														
Manahawkin, frequently flooded-	0-13	0-96	0-25	0-14	0.15-0.40	6-20	0.30-0.40	---	30-80	.05	.05	2	2	134
	13-26	0-96	0-25	0-14	0.15-0.40	6-20	0.30-0.40	---	30-80	.02	.02			
	26-47	0-96	0-25	0-14	0.15-0.40	6-20	0.30-0.40	---	30-80	.02	.02			
	47-80	70-96	2-25	2-14	1.10-1.70	2-20	0.04-0.08	0.0-2.9	0.5-1.0	.10	.10			
MamnAv:														
Mannington, very frequently flooded-	0-14	20-50	50-80	12-18	0.40-0.80	0.2-0.6	0.16-0.22	0.0-2.9	10-19	.32	.32	5	8	0
	14-32	8-19	40-80	20-34	0.40-1.55	0.2-2	0.16-0.25	0.0-2.9	3.0-19	.37	.37			
	32-42	0-50	0-80	0-18	0.13-0.23	0.6-2	0.35-0.45	---	70-100	.05	.05			
	42-52	0-50	0-80	0-18	0.13-0.23	2-6	0.35-0.65	---	70-100	.05	.05			
	52-62	20-50	50-80	12-18	0.40-0.80	0.2-0.6	0.16-0.22	0.0-2.9	10-19	.32	.32			
	62-90	15-85	20-80	14-34	1.45-1.60	0.2-6	0.11-0.18	0.0-2.9	2.0-8.0	.37	.37			
Nanticoke, very frequently flooded-	0-5	20-49	50-80	8-15	1.45-1.55	0.2-0.6	0.15-0.25	0.0-2.9	10-19	.32	.32	5	8	0
	5-50	20-49	50-80	18-25	1.45-1.55	0.2-0.6	0.10-0.20	0.0-2.9	0.5-5.0	.37	.37			
	50-80	10-49	40-80	12-39	1.45-1.55	0.2-0.6	0.10-0.20	0.0-2.9	0.5-5.0	.37	.37			
MasB:														
Marlton-------------	0-10	20-50	50-80	10-18	1.10-1.45	0.6-2	0.20-0.28	0.0-2.9	0.5-3.0	.43	.43	5	5	56
	10-24	1-80	1-40	30-98	1.25-1.40	0.06-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.43	.43			
	24-30	1-80	1-40	30-98	1.25-1.40	0.06-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.43	.43			
	30-44	1-80	1-40	30-98	1.25-1.40	0.06-0.2	0.10-0.16	3.0-5.9	0.0-0.5	.43	.43			
	44-72	43-85	1-50	15-98	1.25-1.40	0.06-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.24			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (K_{sat})	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Kf	T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
MasC:														
Marlton-------------	0-7	20-50	50-80	12-27	1.10-1.45	0.6-2	0.20-0.28	0.0-2.9	0.5-3.0	.43	.43	5	5	56
	7-11	20-50	50-80	12-27	1.10-1.45	0.6-2	0.20-0.28	0.0-2.9	0.5-3.0	.43	.43			
	11-17	19-50	45-80	12-27	1.25-1.40	0.06-0.2	0.10-0.16	0.0-2.9	0.0-0.5	.43	.43			
	17-28	45-65	1-20	35-55	1.25-1.40	0.06-0.2	0.10-0.16	0.0-2.9	0.0-0.5	.43	.43			
	28-40	45-65	1-20	35-55	1.25-1.40	0.06-0.2	0.10-0.16	0.0-2.9	0.0-0.5	.43	.43			
	40-72	45-80	1-28	12-40	1.25-1.40	0.06-2	0.10-0.16	0.0-2.9	0.0-0.5	.24	.24			
MbrA:														
Matapeake-----------	0-10	10-50	50-80	12-27	1.00-1.45	0.6-2	0.20-0.28	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	10-25	10-50	28-80	12-27	1.40-1.65	0.2-2	0.18-0.24	0.0-2.9	0.0-0.5	.49	.49			
	25-33	10-50	28-80	12-27	1.40-1.65	0.2-2	0.18-0.24	0.0-2.9	0.0-0.5	.49	.49			
	33-50	43-90	1-50	1-20	1.65-1.85	0.6-6	0.08-0.18	0.0-2.9	0.0-0.5	.24	.24			
	50-72	85-98	1-15	1-10	1.65-1.85	0.6-6	0.08-0.18	0.0-2.9	0.0-0.5	.24	.24			
MbrB:														
Matapeake-----------	0-10	10-50	50-80	12-27	1.00-1.45	0.6-2	0.20-0.28	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	10-25	10-50	28-80	12-27	1.40-1.65	0.2-2	0.18-0.24	0.0-2.9	0.0-0.5	.49	.49			
	25-33	10-50	28-80	12-27	1.40-1.65	0.2-2	0.18-0.24	0.0-2.9	0.0-0.5	.49	.49			
	33-50	43-90	1-50	1-20	1.65-1.85	0.6-6	0.08-0.18	0.0-2.9	0.0-0.5	.24	.24			
	50-72	85-98	1-15	1-10	1.65-1.85	0.6-6	0.08-0.18	0.0-2.9	0.0-0.5	.24	.24			
MbrC:														
Matapeake-----------	0-10	10-50	50-80	12-27	1.00-1.45	0.6-2	0.20-0.28	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	10-25	10-50	28-80	12-27	1.40-1.65	0.2-2	0.18-0.24	0.0-2.9	0.0-0.5	.49	.49			
	25-33	10-50	28-80	12-27	1.40-1.65	0.2-2	0.18-0.24	0.0-2.9	0.0-0.5	.49	.49			
	33-50	43-90	1-50	1-20	1.65-1.85	0.6-6	0.08-0.18	0.0-2.9	0.0-0.5	.24	.24			
	50-72	85-98	1-15	1-10	1.65-1.85	0.6-6	0.08-0.18	0.0-2.9	0.0-0.5	.24	.24			
MbuA:														
Mattapex------------	0-7	10-50	50-80	12-27	1.10-1.45	0.6-2	0.20-0.28	0.0-2.9	0.5-3.0	.43	.43	5	5	56
	7-18	5-50	50-80	12-27	1.25-1.45	0.2-2	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43			
	18-33	1-20	40-73	12-40	1.25-1.45	0.2-2	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43			
	33-40	1-20	40-73	12-40	1.25-1.45	0.2-2	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43			
	40-72	70-90	1-30	1-15	1.50-1.80	6-20	0.05-0.08	0.0-2.9	0.0-0.5	.17	.17			
MbuB:														
Mattapex------------	0-9	10-50	50-80	12-27	1.10-1.45	0.6-2	0.20-0.28	0.0-2.9	0.5-3.0	.43	.43	5	5	56
	9-12	10-50	50-80	12-27	1.10-1.45	0.6-2	0.20-0.28	0.0-2.9	0.5-3.0	.43	.43			
	12-52	5-50	50-80	12-27	1.25-1.45	0.2-2	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43			
	52-56	43-90	1-50	1-15	1.45-1.65	0.6-6	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
	56-72	70-98	1-30	1-10	1.50-1.80	6-20	0.05-0.08	0.0-2.9	0.0-0.5	.17	.17			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (K_{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
MbxB:														
Mattapex------------	0-10	14-50	50-80	12-27	1.10-1.45	0.6-2	0.20-0.28	0.0-2.9	0.5-3.0	.43	.43	5	5	56
	10-18	7-50	50-80	12-27	1.25-1.45	0.2-2	0.18-0.22	0.0-2.9	0.0-0.5	.43	.43			
	18-40	43-85	1-30	1-20	1.45-1.65	0.6-6	0.14-0.18	0.0-2.9	0.0-0.5	.28	.28			
	40-72	85-98	1-15	1-10	1.50-1.80	6-20	0.05-0.08	0.0-2.9	0.0-0.5	.17	.17			
Urban land----------	---	---	---	---	---	---	---	---	---	---	---	--	8	0
MutA:														
Muttontown----------	0-2	0-85	0-50	0-20	0.13-0.23	2-6	0.35-0.65	---	70-100	.05	.05	5	3	86
	2-3	43-85	1-50	1-20	1.40-1.75	2-6	0.10-0.13	0.0-2.9	0.0-1.0	.32	.32			
	3-7	43-85	1-50	1-20	1.40-1.75	2-6	0.10-0.13	0.0-2.9	0.0-1.0	.32	.32			
	7-20	43-85	1-50	10-20	1.30-1.60	0.6-20	0.17-0.21	0.0-2.9	0.0-0.0	.32	.32			
	20-38	45-80	1-28	10-35	1.30-1.60	0.6-20	0.17-0.21	0.0-2.9	0.0-0.0	.32	.32			
	38-57	45-85	1-28	10-35	1.50-1.70	0.6-6	0.09-0.13	0.0-2.9	0.0-0.0	.37	.37			
	57-72	45-65	1-20	10-55	1.10-1.70	0.2-6	0.10-0.13	3.0-5.9	0.0-0.0	.37	.37			
OTKA:														
Othello-------------	0-1	0-50	0-80	0-18	0.13-0.23	2-6	0.35-0.65	---	70-100	.05	.05	5	5	56
	1-13	20-50	50-80	8-18	1.45-1.55	0.2-2	0.16-0.24	0.0-2.9	1.0-2.0	.37	.37			
	13-32	20-50	50-80	15-27	1.45-1.55	0.2-2	0.12-0.24	0.0-2.9	0.0-0.5	.43	.43			
	32-40	5-19	45-80	27-39	1.45-1.55	0.2-2	0.12-0.24	3.0-5.9	0.0-0.5	.37	.37			
	40-60	71-89	4-29	3-14	1.55-1.65	2-20	0.10-0.16	0.0-2.9	0.0-0.5	.20	.20			
	60-80	85-96	2-12	2-9	1.60-1.70	2-20	0.10-0.16	0.0-2.9	0.0-0.5	.10	.10			
Fallsington---------	0-2	0-52	0-50	0-27	0.13-0.23	2-6	0.35-0.65	---	70-100	.05	.05	5	5	56
	2-5	23-52	28-50	7-27	1.45-1.55	0.6-2	0.15-0.20	0.0-2.9	1.0-4.0	.28	.28			
	5-8	43-85	5-55	18-20	1.50-1.60	0.6-6	0.15-0.18	0.0-2.9	0.0-0.5	.28	.28			
	8-14	43-85	5-55	18-20	1.50-1.60	0.6-6	0.15-0.18	0.0-2.9	0.0-0.5	.28	.28			
	14-31	23-80	5-50	18-35	1.45-1.55	0.2-2	0.06-0.20	0.0-2.9	0.0-0.5	.15	.20			
	31-62	43-95	4-40	3-18	1.50-1.70	2-20	0.04-0.13	0.0-2.9	0.0-0.5	.10	.10			
	62-80	43-95	4-40	2-18	1.50-1.70	2-20	0.03-0.11	0.0-2.9	0.0-0.5	.05	.10			
OTMA:														
Othello-------------	0-1	0-50	0-80	0-18	0.13-0.23	2-6	0.35-0.65	---	70-100	.05	.05	5	5	56
	1-13	20-50	50-80	8-18	1.45-1.55	0.2-2	0.16-0.24	0.0-2.9	1.0-2.0	.37	.37			
	13-32	20-50	50-80	15-27	1.45-1.55	0.2-2	0.12-0.24	0.0-2.9	0.0-0.5	.43	.43			
	32-40	5-19	45-80	27-39	1.45-1.55	0.2-2	0.12-0.24	3.0-5.9	0.0-0.5	.37	.37			
	40-60	71-89	4-29	3-14	1.55-1.65	2-20	0.10-0.16	0.0-2.9	0.0-0.5	.20	.20			
	60-80	85-96	2-12	2-9	1.60-1.70	2-20	0.10-0.16	0.0-2.9	0.0-0.5	.10	.10			
Fallsington---------	0-2	0-52	0-50	0-27	0.13-0.23	2-6	0.35-0.65	---	70-100	.05	.05	5	5	56
	2-5	23-52	28-50	7-27	1.45-1.55	0.6-2	0.15-0.20	0.0-2.9	1.0-4.0	.28	.28			
	5-8	43-85	5-55	18-20	1.50-1.60	0.6-6	0.15-0.18	0.0-2.9	0.0-0.5	.28	.28			
	8-14	43-85	5-55	18-20	1.50-1.60	0.6-6	0.15-0.18	0.0-2.9	0.0-0.5	.28	.28			
	14-31	23-80	5-50	18-35	1.45-1.55	0.2-2	0.06-0.20	0.0-2.9	0.0-0.5	.15	.20			
	31-62	43-95	4-40	3-18	1.50-1.70	2-20	0.04-0.13	0.0-2.9	0.0-0.5	.10	.10			
	62-80	43-95	4-40	2-18	1.50-1.70	2-20	0.03-0.11	0.0-2.9	0.0-0.5	.05	.10			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (K_{sat})	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors			Wind erodi-bility group	Wind erodi-bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
OTMA:														
Trussum-------------	0-12	23-52	28-50	7-27	1.20-1.50	0.6-2	0.18-0.24	0.0-2.9	1.0-4.0	.43	.43	5	5	56
	12-25	23-52	28-50	7-27	1.20-1.50	0.6-2	0.18-0.24	0.0-2.9	0.0-0.5	.43	.43			
	25-35	1-45	1-40	27-98	1.35-1.55	0.06-0.2	0.14-0.20	6.0-8.9	0.0-0.5	.37	.37			
	35-60	1-45	1-40	27-98	1.35-1.55	0.06-0.2	0.14-0.20	9.0-11.9	0.0-0.5	.37	.37			
	60-66	45-80	1-28	20-98	1.30-1.50	0.01-0.2	0.12-0.16	0.0-2.9	0.0-0.5	.32	.32			
	66-72	45-80	1-28	20-98	1.30-1.50	0.01-0.2	0.12-0.16	0.0-2.9	0.0-0.5	.32	.32			
PEEAR:														
Pedricktown, rarely flooded------------	0-2	0-50	0-80	0-18	0.13-0.23	2-6	0.35-0.65	---	70-100	.05	.05	4	5	56
	2-9	20-50	50-80	8-18	1.45-1.55	0.2-2	0.17-0.28	0.0-2.9	3.0-8.0	.32	.32			
	9-22	43-85	5-55	18-20	1.50-1.60	2-6	0.08-0.16	0.0-2.9	1.0-2.0	.28	.28			
	22-36	71-89	4-29	3-14	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
	36-40	20-80	10-75	7-35	1.40-1.60	0.2-2	0.18-0.22	0.0-2.9	0.0-0.5	.20	.20			
	40-49	43-85	5-55	18-20	1.50-1.60	2-6	0.08-0.16	0.0-2.9	1.0-2.0	.28	.28			
	49-56	71-89	4-29	3-14	1.55-1.65	6-20	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
	56-72	71-96	2-29	2-14	1.55-1.70	6-20	0.05-0.08	0.0-2.9	0.0-0.5	.10	.10			
Askecksy, rarely flooded------------	0-9	71-89	4-29	3-14	1.55-1.65	6-20	0.03-0.10	0.0-2.9	1.0-5.0	.20	.20	5	2	134
	9-11	85-96	2-12	2-9	1.60-1.70	6-20	0.03-0.10	0.0-2.9	0.5-1.0	.10	.10			
	11-28	85-96	2-12	2-9	1.55-1.70	6-20	0.03-0.10	0.0-2.9	0.5-1.0	.10	.10			
	28-31	85-96	2-12	2-9	1.60-1.80	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.10	.10			
	31-80	85-96	2-12	2-9	1.60-1.80	6-20	0.02-0.05	0.0-2.9	0.5-1.0	.10	.10			
Mullica, rarely flooded------------	0-2	0-80	0-42	0-15	0.13-0.23	2-6	0.35-0.65	---	70-100	.05	.05	5	5	56
	2-9	55-80	5-42	6-15	1.50-1.60	0.6-6	0.10-0.20	0.0-2.9	2.0-4.0	.28	.28			
	9-14	55-80	5-42	6-15	1.50-1.60	0.6-6	0.10-0.13	0.0-2.9	1.0-2.0	.28	.28			
	14-28	55-80	5-42	6-15	1.50-1.60	0.6-6	0.10-0.13	0.0-2.9	1.0-2.0	.28	.28			
	28-31	70-96	2-25	2-14	1.55-1.70	6-20	0.02-0.10	0.0-2.9	0.1-0.5	.10	.10			
	31-40	70-96	2-25	2-14	1.55-1.70	6-20	0.02-0.10	0.0-2.9	0.1-0.5	.10	.10			
	40-80	70-96	2-25	2-14	1.55-1.70	6-20	0.02-0.08	0.0-2.9	0.0-0.0	.17	.10			
PHG:														
Pits, sand and gravel-------------	---	---	---	---	---	---	---	---	---	---	---	5	8	0
PHM:														
Pits, clay----------	---	---	---	---	---	---	---	---	---	---	---	5	4	86

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (K_{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
SacA:														
Sassafras-----------	0-12	55-80	5-42	8-16	1.50-1.60	0.6-6	0.13-0.15	0.0-2.9	0.8-2.5	.28	.28	5	3	86
	12-18	43-85	5-55	15-22	1.50-1.60	0.6-6	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	18-28	46-79	10-35	20-34	1.45-1.55	0.2-2	0.11-0.22	0.0-2.9	0.1-0.5	.32	.32			
	28-40	43-85	5-50	3-16	1.50-1.65	2-20	0.07-0.13	0.0-2.9	0.1-0.5	.20	.20			
	40-58	43-95	4-40	2-18	1.50-1.70	2-20	0.04-0.12	0.0-2.9	0.1-0.5	.15	.15			
	58-80	43-95	4-40	2-18	1.50-1.70	2-20	0.04-0.12	0.0-2.9	0.1-0.5	.15	.15			
SacB:														
Sassafras-----------	0-12	55-80	5-42	8-16	1.50-1.60	0.6-6	0.13-0.15	0.0-2.9	0.8-2.5	.28	.28	5	3	86
	12-18	43-85	5-55	15-22	1.50-1.60	0.6-6	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	18-28	46-79	10-35	20-34	1.45-1.55	0.2-2	0.11-0.22	0.0-2.9	0.1-0.5	.32	.32			
	28-40	43-85	5-50	3-16	1.50-1.65	2-20	0.07-0.13	0.0-2.9	0.1-0.5	.20	.20			
	40-58	43-95	4-40	2-18	1.50-1.70	2-20	0.04-0.12	0.0-2.9	0.1-0.5	.15	.15			
	58-80	43-95	4-40	2-18	1.50-1.70	2-20	0.04-0.12	0.0-2.9	0.1-0.5	.15	.15			
SacC:														
Sassafras-----------	0-12	55-80	5-42	8-16	1.50-1.60	0.6-6	0.13-0.15	0.0-2.9	0.8-2.5	.28	.28	5	3	86
	12-18	43-85	5-55	15-22	1.50-1.60	0.6-6	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	18-28	46-79	10-35	20-34	1.45-1.55	0.2-2	0.11-0.22	0.0-2.9	0.1-0.5	.32	.32			
	28-40	43-85	5-50	3-16	1.50-1.65	2-20	0.07-0.13	0.0-2.9	0.1-0.5	.20	.20			
	40-58	43-95	4-40	2-18	1.50-1.70	2-20	0.04-0.12	0.0-2.9	0.1-0.5	.15	.15			
	58-80	43-95	4-40	2-18	1.50-1.70	2-20	0.04-0.12	0.0-2.9	0.1-0.5	.15	.15			
SafA:														
Sassafras-----------	0-8	23-52	28-50	7-27	1.00-1.45	0.6-2	0.12-0.20	0.0-2.9	1.0-2.0	.32	.32	5	5	56
	8-12	23-52	28-50	7-27	1.00-1.45	0.6-2	0.12-0.20	0.0-2.9	1.0-2.0	.32	.32			
	12-25	45-80	1-28	10-35	1.40-1.65	0.2-2	0.11-0.22	0.0-2.9	0.0-0.5	.32	.32			
	25-31	45-80	1-28	10-35	1.40-1.65	0.2-2	0.11-0.22	0.0-2.9	0.0-0.5	.32	.32			
	31-42	43-90	1-50	1-20	1.35-1.50	0.6-20	0.04-0.12	0.0-2.9	0.0-0.2	.17	.24			
	42-60	70-90	1-30	1-15	1.35-1.50	0.6-20	0.04-0.12	0.0-2.9	0.0-0.2	.17	.24			
SanA:														
Sassafras-----------	0-12	55-80	5-42	6-15	1.50-1.60	0.6-6	0.13-0.15	0.0-2.9	1.0-3.0	.28	.28	5	3	86
	12-18	43-85	5-55	15-22	1.50-1.60	0.6-6	0.12-0.17	0.0-2.9	0.1-0.5	.28	.28			
	18-28	46-79	10-35	20-34	1.45-1.55	0.2-2	0.11-0.22	0.0-2.9	0.1-0.5	.32	.32			
	28-40	43-85	5-50	3-16	1.50-1.65	2-20	0.07-0.13	0.0-2.9	0.1-0.5	.20	.20			
	40-58	43-95	4-40	2-18	1.50-1.70	2-20	0.04-0.12	0.0-2.9	0.1-0.5	.15	.15			
	58-80	43-95	4-40	2-18	1.50-1.70	2-20	0.04-0.12	0.0-2.9	0.1-0.5	.15	.15			
Woodstown-----------	0-11	43-85	1-50	5-20	1.00-1.40	0.6-6	0.08-0.16	0.0-2.9	1.0-2.0	.28	.28	5	3	86
	11-17	43-85	1-50	5-20	1.35-1.70	0.2-6	0.06-0.16	0.0-2.9	0.0-0.5	.32	.32			
	17-23	43-85	1-50	5-20	1.35-1.70	0.2-6	0.06-0.16	0.0-2.9	0.0-0.5	.32	.32			
	23-30	43-85	1-50	5-20	1.35-1.70	0.2-6	0.06-0.16	0.0-2.9	0.0-0.5	.32	.32			
	30-48	45-85	1-50	5-20	1.35-1.70	0.2-6	0.06-0.16	0.0-2.9	0.0-0.5	.32	.32			
	48-60	70-90	1-30	3-15	1.35-1.65	0.6-6	0.06-0.16	0.0-2.9	0.0-0.5	.24	.24			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea-bility (K_{sat})	Available water capacity	Linear extensi-bility	Organic matter	Erosion factors Kw	Kf	T	Wind erodi-bility group	Wind erodi-bility index
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
ShnA:														
Sharptown-----------	0-10	14-50	50-80	12-27	1.10-1.30	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-20	1-50	40-80	12-40	1.20-1.40	0.2-0.6	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43			
	20-23	1-50	40-80	12-40	1.20-1.40	0.2-0.6	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43			
	23-38	1-50	40-80	12-40	1.20-1.40	0.2-0.6	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43			
	38-44	1-50	40-73	7-40	1.20-1.40	0.2-0.6	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43			
	44-46	1-90	1-73	1-40	1.20-1.50	0.2-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32			
	46-50	1-90	1-73	1-40	1.20-1.50	0.2-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32			
	50-58	1-90	1-73	1-40	1.20-1.50	0.2-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32			
	58-72	1-90	1-73	1-40	1.20-1.50	0.2-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32			
ShnB:														
Sharptown-----------	0-10	14-50	50-80	12-27	1.10-1.30	0.6-2	0.18-0.22	0.0-2.9	1.0-3.0	.43	.43	5	5	56
	10-20	1-50	40-80	12-40	1.20-1.40	0.2-0.6	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43			
	20-23	1-50	40-80	12-40	1.20-1.40	0.2-0.6	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43			
	23-38	1-50	40-80	12-40	1.20-1.40	0.2-0.6	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43			
	38-44	1-50	40-73	7-40	1.20-1.40	0.2-0.6	0.16-0.20	0.0-2.9	0.0-0.5	.43	.43			
	44-46	1-90	1-73	1-40	1.20-1.50	0.2-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32			
	46-50	1-90	1-73	1-40	1.20-1.50	0.2-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32			
	50-58	1-90	1-73	1-40	1.20-1.50	0.2-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32			
	58-72	1-90	1-73	1-40	1.20-1.50	0.2-2	0.14-0.18	0.0-2.9	0.0-0.5	.32	.32			
SwtB:														
Swedesboro----------	0-10	70-90	1-30	1-15	1.35-1.65	6-20	0.05-0.08	0.0-2.9	0.5-2.0	.20	.20	4	2	134
	10-14	43-90	1-50	1-35	1.45-1.65	2-6	0.10-0.16	0.0-2.9	0.0-0.5	.37	.37			
	14-26	43-85	1-50	1-20	1.45-1.65	2-6	0.10-0.16	0.0-2.9	0.0-0.5	.37	.37			
	26-30	43-85	1-30	1-35	1.45-1.65	2-6	0.10-0.16	0.0-2.9	0.0-0.5	.37	.37			
	30-40	43-90	1-30	1-20	1.50-1.70	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.20	.20			
	40-46	70-90	1-30	1-15	1.50-1.70	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.20	.20			
	46-54	85-98	1-15	1-10	1.65-1.75	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15			
	54-72	85-98	1-15	1-10	1.65-1.75	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15			
SwtC:														
Swedesboro----------	0-10	70-90	1-30	1-15	1.35-1.65	6-20	0.05-0.08	0.0-2.9	0.5-2.0	.20	.20	4	2	134
	10-14	43-90	1-50	1-35	1.45-1.65	2-6	0.10-0.16	0.0-2.9	0.0-0.5	.37	.37			
	14-26	43-85	1-50	1-20	1.45-1.65	2-6	0.10-0.16	0.0-2.9	0.0-0.5	.37	.37			
	26-30	43-85	1-30	1-35	1.45-1.65	2-6	0.10-0.16	0.0-2.9	0.0-0.5	.37	.37			
	30-40	43-90	1-30	1-20	1.50-1.70	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.20	.20			
	40-46	70-90	1-30	1-15	1.50-1.70	6-20	0.06-0.10	0.0-2.9	0.0-0.5	.20	.20			
	46-54	85-98	1-15	1-10	1.65-1.75	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15			
	54-72	85-98	1-15	1-10	1.65-1.75	6-20	0.04-0.07	0.0-2.9	0.0-0.5	.15	.15			

Table 19.--Physical Properties of the Soils--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permea- bility (K_{sat})	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
TrkAv:														
Transquaking, very frequently flooded-	0-14	0-20	0-60	0-60	0.10-0.50	2-20	0.30-0.60	---	60-80	.02	.02	5	8	0
	14-30	0-20	0-60	0-60	0.10-0.50	2-20	0.30-0.60	---	60-80	.02	.02			
	30-45	0-20	0-60	0-60	0.10-0.50	2-20	0.30-0.60	---	60-80	.02	.02			
	45-70	0-20	0-60	0-60	0.10-0.50	2-20	0.30-0.60	---	60-80	.02	.02			
	70-90	0-20	0-60	0-60	0.13-0.23	0.6-2	0.35-0.45	---	70-100	.05	.05			
UddfB:														
Udorthents, dredged fine materials-----	0-12	23-52	28-50	7-27	1.30-1.50	0.6-2	0.14-0.20	0.0-2.9	2.0-4.0	.43	.43	5	5	56
	12-72	1-80	1-40	25-70	1.10-1.30	0.06-0.2	0.17-0.21	3.0-5.9	0.0-0.0	.43	.43			
UdrB:														
Udorthents, refuse substratum---------	0-60	10-50	50-80	12-27	1.20-1.50	0.6-2	0.16-0.24	0.0-2.9	3.0-5.0	.37	.37	5	5	56
UdsB:														
Udorthents, sandy substratum---------	0-12	23-52	28-50	7-27	1.30-1.50	0.6-2	0.14-0.20	0.0-2.9	2.0-4.0	.43	.43	3	5	56
	12-72	85-98	1-15	1-10	1.45-1.65	2-20	0.01-0.10	0.0-2.9	0.0-0.5	.17	.20			
WoeA:														
Woodstown-----------	0-8	55-80	5-42	5-12	1.50-1.60	0.6-6	0.12-0.15	0.0-2.9	1.0-2.0	.28	.28	5	3	86
	8-26	55-80	5-42	5-20	1.50-1.60	0.6-6	0.12-0.15	0.0-2.9	0.1-0.5	.24	.24			
	26-30	46-79	10-35	20-34	1.45-1.55	0.2-2	0.13-0.19	0.0-2.9	0.0-0.2	.20	.20			
	30-36	55-80	5-42	5-20	1.50-1.60	0.6-6	0.11-0.13	0.0-2.9	0.0-0.2	.24	.24			
	36-80	70-96	2-25	2-14	1.55-1.70	2-20	0.03-0.08	0.0-2.9	0.0-0.2	.15	.15			

Table 20.--Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
AdkB:						
Adelphia-------------	0-10	1.5-11	1.1-8.3	3.6-6.5	0	0
	10-14	1.5-11	1.1-8.3	4.0-6.5	0	0
	14-56	11-22	9.5-18	4.0-6.0	0	0
	56-72	2.5-9.1	1.9-6.8	4.0-5.5	0	0
AhmB:						
Alloway--------------	0-10	5.4-14	4.0-10	4.5-6.5	0	0
	10-18	5.1-14	3.8-14	4.5-6.5	0	0
	18-24	14-20	10-15	4.5-6.5	0	0
	24-39	13-35	9.4-26	4.5-6.5	0	0
	39-49	13-35	9.4-26	4.5-6.5	0	0
	49-72	13-35	9.4-26	4.5-6.5	0	0
AhpB:						
Alloway--------------	0-10	3.8-15	2.8-11	4.5-6.5	0	0
	10-18	3.6-14	2.7-11	4.5-6.5	0	0
	18-24	14-20	10-15	4.5-6.5	0	0
	24-39	14-40	10-30	4.5-6.5	0	0
	39-49	14-40	10-30	4.5-6.5	0	0
	49-72	14-40	10-30	4.5-6.5	0	0
AhpC:						
Alloway--------------	0-10	3.8-15	2.8-11	4.5-6.5	0	0
	10-18	3.6-14	2.7-11	4.5-6.5	0	0
	18-24	14-20	10-15	4.5-6.5	0	0
	24-39	14-40	10-30	4.5-6.5	0	0
	39-49	14-40	10-30	4.5-6.5	0	0
	49-72	14-40	10-30	4.5-6.5	0	0
AhrA:						
Alloway--------------	0-11	6.5-15	4.9-11	4.5-6.5	0	0
	11-18	14-20	10-15	4.5-6.5	0	0
	18-24	14-20	10-15	4.5-6.5	0	0
	24-32	14-40	10-30	4.5-6.5	0	0
	32-39	14-40	10-30	4.5-6.5	0	0
	39-48	14-40	10-30	4.5-6.5	0	0
	48-65	14-40	10-30	4.5-6.5	0	0
	65-80	14-40	10-30	4.5-6.5	0	0
AhrB:						
Alloway--------------	0-11	6.5-15	4.9-11	4.5-6.5	0	0
	11-18	14-20	10-15	4.5-6.5	0	0
	18-24	14-20	10-15	4.5-6.5	0	0
	24-32	14-40	10-30	4.5-6.5	0	0
	32-39	14-40	10-30	4.5-6.5	0	0
	39-48	14-40	10-30	4.5-6.5	0	0
	48-65	14-40	10-30	4.5-6.5	0	0
	65-80	14-40	10-30	4.5-6.5	0	0
ApbAv:						
Appoquinimink, very frequently flooded--	0-6	6.6-15	5.0-11	5.6-7.3	16.0-32.0	12-14
	6-21	6.5-15	4.9-11	5.6-7.3	16.0-32.0	10-12
	21-32	6.5-15	4.9-11	5.6-7.3	16.0-32.0	10-12
	32-43	70-140	53-105	5.6-7.3	8.0-16.0	6-8
	43-80	70-140	53-105	5.6-7.3	8.0-16.0	6-8

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
ApbAv:						
Broadkill, very frequently flooded--	0-6	45-135	34-101	5.6-7.3	16.0-32.0	0
	6-10	6.5-15	4.9-11	5.6-7.3	16.0-32.0	0
	10-30	6.5-15	4.9-11	5.6-7.3	16.0-32.0	0
	30-45	2.7-22	2.0-17	5.6-7.3	16.0-32.0	0
	45-72	0.6-22	4.5-17	5.6-7.3	16.0-32.0	0
AucB:						
Aura-----------------	0-7	1.1-5.2	0.8-3.9	3.6-6.5	0	0
	7-22	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	22-28	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	28-59	5.3-11	4.0-8.2	4.0-5.5	0	0
	59-80	0.5-5.3	0.4-4.0	4.0-5.5	0	0
AugB:						
Aura-----------------	0-8	2.0-5.3	1.3-3.2	3.6-5.0	0	0
	8-13	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	13-22	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	22-28	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	28-44	5.3-11	4.0-8.2	4.0-5.5	0	0
	44-59	5.3-11	4.0-8.2	4.0-5.5	0	0
	59-80	0.5-5.3	0.4-4.0	4.0-5.5	0	0
AugC:						
Aura-----------------	0-8	2.0-5.3	1.3-3.2	3.6-5.0	0	0
	8-13	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	13-22	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	22-28	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	28-44	5.3-11	4.0-8.2	4.0-5.5	0	0
	44-59	5.3-11	4.0-8.2	4.0-5.5	0	0
	59-80	0.5-5.3	0.4-4.0	4.0-5.5	0	0
AuhB:						
Aura-----------------	0-8	1.6-4.0	1.2-3.0	3.6-5.0	0	0
	8-12	1.6-4.1	1.2-3.1	4.0-5.5	0	0
	12-20	3.9-10	2.9-7.6	4.0-5.5	0	0
	20-36	3.9-10	2.9-7.6	4.0-5.5	0	0
	36-40	0.7-9.2	0.5-6.9	4.0-5.5	0	0
	40-72	0.7-9.2	0.5-6.9	4.0-5.5	0	0
AuhC:						
Aura-----------------	0-8	1.6-4.0	1.2-3.0	3.6-5.0	0	0
	8-12	1.6-4.1	1.2-3.1	4.0-5.5	0	0
	12-20	3.9-10	2.9-7.6	4.0-5.5	0	0
	20-36	3.9-10	2.9-7.6	4.0-5.5	0	0
	36-40	0.7-9.2	0.5-6.9	4.0-5.5	0	0
	40-72	0.7-9.2	0.5-6.9	4.0-5.5	0	0
AupA:						
Aura-----------------	0-8	2.6-5.6	2.0-4.2	3.6-6.5	0	0
	8-13	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	13-22	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	22-28	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	28-44	5.3-11	4.0-8.2	4.0-5.5	0	0
	44-59	5.3-11	4.0-8.2	4.0-5.5	0	0
	59-80	0.5-5.3	0.4-4.0	4.0-5.5	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
AupB:						
Aura-----------------	0-8	2.6-5.6	2.0-4.2	3.6-6.5	0	0
	8-13	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	13-22	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	22-28	2.0-5.3	1.5-4.0	4.0-5.5	0	0
	28-44	5.3-11	4.0-8.2	4.0-5.5	0	0
	44-59	5.3-11	4.0-8.2	4.0-5.5	0	0
	59-80	0.5-5.3	0.4-4.0	4.0-5.5	0	0
BEXAS:						
Berryland, occasionally flooded	0-11	1.5-6.0	1.1-4.5	3.6-5.5	0	0
	11-19	0.3-4.8	0.2-3.6	3.6-5.5	0	0
	19-32	0.3-1.7	0.2-1.3	3.6-5.5	0	0
	32-40	0.3-4.8	0.2-3.6	3.6-5.5	0	0
	40-44	0.3-1.7	0.2-1.3	3.6-5.5	0	0
	44-80	0.1-1.9	0.1-1.4	3.6-5.5	0	0
Mullica, occasionally flooded-------------	0-2	13-100	10-75	3.6-4.3	0	0
	2-9	1.3-3.5	1.0-2.6	3.6-5.0	0	0
	9-14	1.3-3.6	1.0-2.7	3.6-5.0	0	0
	14-28	1.3-3.6	1.0-2.7	3.6-5.0	0	0
	28-31	0.4-3.9	0.3-2.9	3.6-5.0	0	0
	31-40	0.4-3.9	0.3-2.9	3.6-5.0	0	0
	40-80	0.5-4.3	0.4-3.2	4.5-5.0	0	0
ChsAt:						
Chicone, frequently flooded-------------	0-5	3.6-6.5	2.7-4.9	3.5-5.5	0	0
	5-20	4.1-11	3.1-8.4	3.5-5.5	0	0
	20-28	2.1-11	1.6-8.4	3.5-5.5	0	0
	28-65	45-135	10-75	3.6-4.5	0	0
	65-80	0.5-8.4	0.4-6.3	3.5-5.5	0	0
ChtA:						
Chillum--------------	0-10	2.7-6.8	2.0-5.1	4.5-5.5	0	0
	10-15	3.1-8.5	2.3-6.4	4.5-5.5	0	0
	15-28	3.1-8.5	2.3-6.4	4.5-5.5	0	0
	28-34	3.1-8.5	2.3-6.4	4.5-5.5	0	0
	34-38	1.7-8.5	1.3-6.4	3.6-5.5	0	0
	38-61	0.3-6.3	0.2-4.7	4.5-5.5	0	0
	61-66	0.3-6.3	0.2-4.7	4.5-5.5	0	0
	66-72	0.3-3.1	0.2-2.3	4.5-5.5	0	0
ChtB:						
Chillum--------------	0-10	2.7-6.8	2.0-5.1	4.5-5.5	0	0
	10-15	3.1-8.5	2.3-6.4	4.5-5.5	0	0
	15-28	3.1-8.5	2.3-6.4	4.5-5.5	0	0
	28-34	3.1-8.5	2.3-6.4	4.5-5.5	0	0
	34-38	1.7-8.5	1.3-6.4	3.6-5.5	0	0
	38-61	0.3-6.3	0.2-4.7	4.5-5.5	0	0
	61-66	0.3-6.3	0.2-4.7	4.5-5.5	0	0
	66-72	0.3-3.1	0.2-2.3	4.5-5.5	0	0
DocB:						
Downer---------------	0-10	1.1-5.2	0.8-3.9	3.6-7.0	0	0
	10-16	1.1-5.0	0.8-3.8	3.6-6.5	0	0
	16-36	2.1-5.3	1.6-4.0	3.6-6.0	0	0
	36-48	0.8-4.7	0.6-3.5	3.6-5.5	0	0
	48-80	0.5-4.7	0.4-3.5	3.6-5.5	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
DocC:						
Downer---------------	0-10	1.1-5.2	0.8-3.9	3.6-7.0	0	0
	10-16	1.1-5.0	0.8-3.8	3.6-6.5	0	0
	16-36	2.1-5.3	1.6-4.0	3.6-6.0	0	0
	36-48	0.8-4.7	0.6-3.5	3.6-5.5	0	0
	48-80	0.5-4.7	0.4-3.5	3.6-5.5	0	0
DoeA:						
Downer---------------	0-10	1.9-4.5	1.4-3.4	3.6-7.0	0	0
	10-16	2.1-5.3	1.6-4.0	3.6-6.5	0	0
	16-36	2.1-5.3	1.6-4.0	3.6-6.0	0	0
	36-48	0.8-4.7	0.6-3.5	3.6-5.5	0	0
	48-80	0.5-4.7	0.4-3.5	3.6-5.5	0	0
DoeB:						
Downer---------------	0-10	1.9-4.5	1.4-3.4	3.6-7.0	0	0
	10-16	2.1-5.3	1.6-4.0	3.6-6.5	0	0
	16-36	2.1-5.3	1.6-4.0	3.6-6.0	0	0
	36-48	0.8-4.7	0.6-3.5	3.6-5.5	0	0
	48-80	0.5-4.7	0.4-3.5	3.6-5.5	0	0
DopB:						
Downer---------------	0-10	1.1-5.2	0.8-3.9	3.6-7.0	0	0
	10-16	1.1-5.0	0.8-3.8	3.6-6.5	0	0
	16-36	2.1-5.3	1.6-4.0	3.6-6.0	0	0
	36-48	0.8-4.7	0.6-3.5	3.6-5.5	0	0
	48-80	0.5-4.7	0.4-3.5	3.6-5.5	0	0
Galestown------------	0-10	0.4-5.3	0.3-4.0	3.6-5.5	0	0
	10-50	0.4-5.3	0.3-4.0	3.6-5.5	0	0
	50-72	0.3-4.0	0.2-3.0	3.6-5.5	0	0
DouB:						
Downer---------------	0-10	1.1-5.5	0.8-4.1	4.3-6.5	0	0
	10-16	2.1-5.3	1.6-4.0	3.6-6.5	0	0
	16-36	2.1-5.3	1.6-4.0	3.6-6.0	0	0
	36-48	0.8-4.7	0.6-3.5	3.6-5.5	0	0
	48-80	0.5-4.7	0.4-3.5	3.6-5.5	0	0
Urban land-----------	---	---	---	---	---	---
EveB:						
Evesboro-------------	0-4	1.1-5.5	0.8-4.1	3.6-5.0	0	0
	4-17	0.3-0.9	0.2-0.7	3.6-5.0	0	0
	17-31	0.3-1.3	0.2-1.0	3.6-5.0	0	0
	31-80	0.3-1.5	0.2-1.1	3.6-5.0	0	0
EveC:						
Evesboro-------------	0-4	1.1-5.5	0.8-4.1	3.6-5.0	0	0
	4-17	0.3-0.9	0.2-0.7	3.6-5.0	0	0
	17-31	0.3-1.3	0.2-1.0	3.6-5.0	0	0
	31-80	0.3-1.5	0.2-1.1	3.6-5.0	0	0
FmhAt:						
Fluvaquents, loamy, frequently flooded--	0-5	6.0-21	4.5-16	5.1-6.5	0	0
	5-12	6.6-18	5.0-13	5.1-6.5	0	0
	12-18	10-22	7.8-16	5.1-7.3	0	0
	18-24	10-22	7.8-16	5.1-7.3	0	0
	24-60	3.1-11	2.3-7.9	5.1-7.3	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
FodB:						
Fort Mott------------	0-8	0.3-3.9	0.2-2.9	3.6-5.5	0	0
	8-30	0.3-16	0.2-12	3.6-5.5	0	0
	30-33	0.3-5.6	0.2-4.2	3.6-5.5	0	0
	33-49	0.3-5.6	0.2-4.2	3.6-5.5	0	0
	49-72	0.3-4.1	0.2-3.1	3.6-5.5	0	0
GabB:						
Galestown------------	0-10	0.4-3.9	0.3-2.9	3.6-5.5	0	0
	10-23	0.4-6.7	0.3-5.0	3.6-5.5	0	0
	23-30	0.4-6.7	0.3-5.0	3.6-5.5	0	0
	30-38	0.4-6.7	0.3-5.0	3.6-5.5	0	0
	38-60	0.4-3.9	0.3-2.9	3.6-5.5	0	0
GamB:						
Galloway-------------	0-2	1.3-11	1.0-8.1	3.6-5.0	0	0
	2-10	0.1-6.1	0.1-4.6	3.6-5.0	0	0
	10-24	0.5-3.7	0.4-2.8	3.6-5.0	0	0
	24-36	0.5-3.7	0.4-2.8	3.6-5.0	0	0
	36-52	0.5-2.7	0.4-2.0	3.6-5.0	0	0
	52-60	0.5-2.7	0.4-2.0	3.6-5.0	0	0
HbmB:						
Hammonton------------	0-8	1.1-5.2	0.8-3.9	3.6-6.0	0	0
	8-18	0.8-10	0.6-7.6	3.6-5.5	0	0
	18-36	1.5-4.0	1.1-3.0	3.6-5.5	0	0
	36-80	0.5-4.3	0.4-3.2	3.6-5.5	0	0
HboA:						
Hammonton------------	0-8	1.1-4.9	0.8-3.7	3.6-5.5	0	0
	8-18	0.4-14	0.3-11	3.6-5.5	0	0
	18-36	1.2-5.6	0.9-4.2	4.5-5.5	0	0
	36-60	0.4-2.7	0.3-2.0	4.5-5.5	0	0
HbrB:						
Hammonton------------	0-8	1.1-5.2	0.8-3.9	3.6-6.0	0	0
	8-18	0.8-10	0.6-7.6	3.6-5.5	0	0
	18-36	1.5-4.0	1.1-3.0	3.6-5.5	0	0
	36-80	0.5-4.3	0.4-3.2	3.6-5.5	0	0
Urban land-----------	---	---	---	---	---	---
KeoC:						
Keyport--------------	0-10	1.6-6.8	1.2-5.1	3.6-5.5	0	0
	10-16	1.6-6.8	1.2-5.1	3.6-5.5	0	0
	16-24	7.1-13	5.3-9.7	4.5-5.5	0	0
	24-38	7.1-13	5.3-9.7	4.5-5.5	0	0
	38-60	7.1-13	5.3-9.7	4.5-5.5	0	0
MakAt:						
Manahawkin, frequently flooded--	0-13	60-160	20-80	3.6-5.5	0.0-2.0	0
	13-26	60-160	20-80	3.6-5.5	0.0-2.0	0
	26-47	60-160	20-80	3.6-5.5	0.0-2.0	0
	47-80	0.0-6.3	0.0-4.7	3.6-5.5	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
MamnAv:						
Mannington, very frequently flooded--	0-14	31-43	23-32	5.6-7.3	0.0-4.0	0
	14-32	11-19	8.2-14	5.6-7.3	0.0-4.0	0
	32-42	121-173	90-129	6.1-7.3	0.0-4.0	0
	42-52	95-135	90-129	6.1-7.3	0.0-4.0	0
	52-62	31-43	23-32	6.1-7.3	0.0-4.0	0
	62-90	7.6-19	5.7-14	6.1-7.3	0.0-4.0	0
Nanticoke, very frequently flooded--	0-5	4.5-8.4	3.4-6.3	5.6-7.3	0.0-4.0	0
	5-50	9.6-14	7.2-10	5.6-7.3	0.0-4.0	0
	50-80	6.4-21	4.8-16	5.6-7.3	0.0-4.0	0
MasB:						
Marlton--------------	0-10	4.1-12	3.1-9.2	3.5-5.5	0	0
	10-24	1.2-17	0.9-13	4.5-5.5	0	0
	24-30	1.2-17	0.9-13	4.5-5.5	0	0
	30-44	1.2-17	0.9-13	4.5-5.5	0	0
	44-72	0.8-19	0.6-14	4.5-5.5	0	0
MasC:						
Marlton--------------	0-7	4.5-15	3.4-12	3.5-5.5	0	0
	7-11	6.9-41	5.2-31	3.5-5.5	0	0
	11-17	4.3-11	3.2-8.5	4.5-5.5	0	0
	17-28	1.2-8.7	0.9-6.5	4.5-5.5	0	0
	28-40	1.2-8.7	0.9-6.5	4.5-5.5	0	0
	40-72	0.7-8.5	0.5-6.4	4.5-5.5	0	0
MbrA:						
Matapeake------------	0-10	2.8-6.8	2.1-5.1	4.5-5.5	0	0
	10-25	3.1-8.5	2.3-6.4	3.6-5.5	0	0
	25-33	3.1-8.5	2.3-6.4	3.6-5.5	0	0
	33-50	0.3-6.3	0.2-4.7	3.6-5.5	0	0
	50-72	0.3-3.1	0.2-2.3	3.6-5.5	0	0
MbrB:						
Matapeake------------	0-10	2.8-6.8	2.1-5.1	4.5-5.5	0	0
	10-25	3.1-8.5	2.3-6.4	3.6-5.5	0	0
	25-33	3.1-8.5	2.3-6.4	3.6-5.5	0	0
	33-50	0.3-6.3	0.2-4.7	3.6-5.5	0	0
	50-72	0.3-3.1	0.2-2.3	3.6-5.5	0	0
MbrC:						
Matapeake------------	0-10	2.8-6.8	2.1-5.1	4.5-5.5	0	0
	10-25	3.1-8.5	2.3-6.4	3.6-5.5	0	0
	25-33	3.1-8.5	2.3-6.4	3.6-5.5	0	0
	33-50	0.3-6.3	0.2-4.7	3.6-5.5	0	0
	50-72	0.3-3.1	0.2-2.3	3.6-5.5	0	0
MbuA:						
Mattapex-------------	0-7	3.9-12	2.9-9.1	3.6-5.5	0	0
	7-18	4.8-18	3.6-13	3.6-5.5	0	0
	18-33	4.8-28	3.6-21	3.6-5.5	0	0
	33-40	4.8-28	3.6-21	3.6-5.5	0	0
	40-72	0.3-9.1	0.2-6.8	3.6-5.5	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
MbuB:						
Mattapex-------------	0-9	3.9-12	2.9-9.1	3.6-5.5	0	0
	9-12	3.9-12	2.9-9.1	3.6-5.5	0	0
	12-52	4.8-18	3.6-13	3.6-5.5	0	0
	52-56	0.3-9.1	0.2-6.8	3.6-5.5	0	0
	56-72	0.3-5.7	0.2-4.3	3.6-5.5	0	0
MbxB:						
Mattapex-------------	0-10	3.9-12	2.9-9.1	3.6-5.5	0	0
	10-18	4.8-18	3.6-13	3.6-5.5	0	0
	18-40	0.3-13	0.2-9.5	3.6-5.5	0	0
	40-72	0.3-5.7	0.2-4.3	3.6-5.5	0	0
Urban land-----------	---	---	---	---	---	---
MutA:						
Muttontown-----------	0-2	158-230	118-172	3.6-4.3	0	0
	2-3	0.4-7.2	0.3-5.4	6.1-6.5	0	0
	3-7	0.4-7.2	0.3-5.4	6.1-6.5	0	0
	7-20	3.4-6.7	2.6-5.0	4.5-6.5	0	0
	20-38	3.4-12	2.6-8.6	4.5-6.5	0	0
	38-57	3.4-12	2.6-8.6	4.5-6.5	0	0
	57-72	3.4-18	2.6-13	4.5-6.5	0	0
OTKA:						
Othello--------------	0-1	9.2-14	6.9-10	3.6-4.5	0	0
	1-13	2.5-7.1	1.9-5.3	3.6-5.5	0	0
	13-32	6.1-18	4.6-13	3.6-5.5	0	0
	32-40	12-27	9.1-20	3.6-5.5	0	0
	40-60	0.9-8.4	0.7-6.3	3.6-5.5	0	0
	60-80	0.7-5.1	0.5-3.8	3.6-5.5	0	0
Fallsington----------	0-2	9.2-14	6.9-10	3.6-4.3	0	0
	2-5	2.0-11	1.5-8.4	3.6-5.5	0	0
	5-8	7.6-13	0.8-11	3.6-5.5	0	0
	8-14	7.6-13	5.7-9.5	3.6-5.5	0	0
	14-31	7.6-24	5.7-18	3.6-5.5	0	0
	31-62	0.9-11	0.7-8.4	3.6-5.5	0	0
	62-80	0.7-11	0.5-8.4	3.6-5.5	0	0
OTMA:						
Othello--------------	0-1	85-94	32-37	3.6-4.5	0	0
	1-13	2.5-7.1	1.9-5.3	3.6-5.5	0	0
	13-32	6.1-18	4.6-13	3.6-5.5	0	0
	32-40	12-27	9.1-20	3.6-5.5	0	0
	40-60	0.9-8.4	0.7-6.3	3.6-5.5	0	0
	60-80	0.7-5.1	0.5-3.8	3.6-5.5	0	0
Fallsington----------	0-2	85-94	32-37	3.6-4.3	0	0
	2-5	2.0-11	1.5-8.4	3.6-5.5	0	0
	5-8	1.1-14	0.8-11	3.6-5.5	0	0
	8-14	7.6-13	5.7-9.5	3.6-5.5	0	0
	14-31	7.6-24	5.7-18	3.6-5.5	0	0
	31-62	0.9-11	0.7-8.4	3.6-5.5	0	0
	62-80	0.7-11	0.5-8.4	3.6-5.5	0	0
Trussum--------------	0-12	2.0-11	1.5-8.4	3.5-5.5	0	0
	12-25	2.5-18	1.9-13	3.5-5.5	0	0
	25-35	12-80	9.1-60	3.5-5.5	0	0
	35-60	12-80	9.1-60	3.5-5.5	0	0
	60-66	8.5-80	6.4-60	3.5-5.5	0	0
	66-72	8.5-80	6.4-60	3.5-5.5	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
PEEAR:						
Pedricktown, rarely flooded-------------	0-2	9.2-14	6.9-10	3.6-4.5	0	0
	2-9	4.4-10.0	3.3-7.5	4.5-6.5	0	0
	9-22	9.7-11	7.3-8.1	4.5-6.5	0	0
	22-36	1.6-7.5	1.2-5.6	4.5-6.5	0	0
	36-40	3.6-18	2.7-14	4.5-6.5	0	0
	40-49	9.7-11	7.3-8.1	4.5-6.5	0	0
	49-56	1.6-7.5	1.2-5.6	4.5-6.5	0	0
	56-72	1.0-7.5	0.8-5.6	4.5-6.5	0	0
Askecksy, rarely flooded-------------	0-9	1.9-12	1.4-9.3	3.8-5.5	0	0
	9-11	1.1-4.7	0.8-3.5	3.8-5.5	0	0
	11-28	1.1-4.7	0.8-3.5	3.8-5.5	0	0
	28-31	1.1-4.7	0.8-3.5	3.8-5.5	0	0
	31-80	1.1-4.7	0.8-3.5	3.8-5.5	0	0
Mullica, rarely flooded-------------	0-2	9.2-14	6.9-10	3.6-4.3	0	0
	2-9	1.3-3.5	1.0-2.6	3.6-5.0	0	0
	9-14	1.3-3.6	1.0-2.7	3.6-5.0	0	0
	14-28	1.3-3.6	1.0-2.7	3.6-5.0	0	0
	28-31	0.4-3.9	0.3-2.9	3.6-5.0	0	0
	31-40	0.4-3.9	0.3-2.9	3.6-5.0	0	0
	40-80	0.5-4.3	0.4-3.2	4.5-5.0	0	0
PHG:						
Pits, sand and gravel	---	---	---	---	---	---
PHM:						
Pits, clay-----------	---	---	---	---	---	---
SacA:						
Sassafras------------	0-12	2.2-5.6	1.7-4.2	3.6-7.0	0	0
	12-18	6.2-7.1	4.7-5.3	3.6-6.5	0	0
	18-28	6.9-12	5.2-9.0	3.6-6.5	0	0
	28-40	1.1-5.7	0.8-4.3	3.6-6.0	0	0
	40-58	0.4-5.1	0.3-3.8	3.6-5.5	0	0
	58-80	0.4-5.1	0.3-3.8	3.6-5.5	0	0
SacB:						
Sassafras------------	0-12	2.2-5.6	1.7-4.2	3.6-7.0	0	0
	12-18	6.2-7.1	4.7-5.3	3.6-6.5	0	0
	18-28	6.9-12	5.2-9.0	3.6-6.5	0	0
	28-40	1.1-5.7	0.8-4.3	3.6-6.0	0	0
	40-58	0.4-5.1	0.3-3.8	3.6-5.5	0	0
	58-80	0.4-5.1	0.3-3.8	3.6-5.5	0	0
SacC:						
Sassafras------------	0-12	2.2-5.6	1.7-4.2	3.6-7.0	0	0
	12-18	6.2-7.1	4.7-5.3	3.6-6.5	0	0
	18-28	6.9-12	5.2-9.0	3.6-6.5	0	0
	28-40	1.1-5.7	0.8-4.3	3.6-6.0	0	0
	40-58	0.4-5.1	0.3-3.8	3.6-5.5	0	0
	58-80	0.4-5.1	0.3-3.8	3.6-5.5	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
SafA:						
Sassafras------------	0-8	1.6-6.8	1.2-5.1	3.6-5.5	0	0
	8-12	1.6-6.8	1.2-5.1	3.6-5.5	0	0
	12-25	2.5-11	1.9-8.4	3.6-5.5	0	0
	25-31	2.5-11	1.9-8.4	3.6-5.5	0	0
	31-42	0.3-6.3	0.2-4.7	3.6-5.5	0	0
	42-60	0.3-4.7	0.2-3.5	3.6-5.5	0	0
SanA:						
Sassafras------------	0-12	2.2-5.6	1.6-4.2	3.6-7.0	0	0
	12-18	5.2-7.8	3.9-5.8	3.6-6.5	0	0
	18-28	6.9-12	5.2-9.0	3.6-6.5	0	0
	28-40	1.1-5.7	0.8-4.3	3.6-6.0	0	0
	40-58	0.4-5.1	0.3-3.8	3.6-5.5	0	0
	58-80	0.4-5.1	0.3-3.8	3.6-5.5	0	0
Woodstown------------	0-11	1.5-7.9	1.1-5.9	3.6-5.5	0	0
	11-17	1.7-13	1.3-9.5	3.6-5.5	0	0
	17-23	1.7-13	1.3-9.5	3.6-5.5	0	0
	23-30	1.7-13	1.3-9.5	3.6-5.5	0	0
	30-48	1.7-13	1.3-9.5	3.6-5.5	0	0
	48-60	0.9-9.1	0.7-6.8	3.6-5.5	0	0
ShnA:						
Sharptown------------	0-10	3.9-11	2.9-8.4	3.6-4.4	0	0
	10-20	4.8-28	3.6-21	4.5-5.5	0	0
	20-23	4.8-28	3.6-21	4.5-5.5	0	0
	23-38	4.8-28	3.6-21	4.5-5.5	0	0
	38-44	2.5-28	1.9-21	4.5-5.5	0	0
	44-46	0.3-28	0.2-21	4.5-5.5	0	0
	46-50	0.3-28	0.2-21	4.5-5.5	0	0
	50-58	0.3-28	0.2-21	4.5-5.5	0	0
	58-72	0.3-28	0.2-21	4.5-5.5	0	0
ShnB:						
Sharptown------------	0-10	3.9-11	2.9-8.4	3.6-4.4	0	0
	10-20	4.8-28	3.6-21	4.5-5.5	0	0
	20-23	4.8-28	3.6-21	4.5-5.5	0	0
	23-38	4.8-28	3.6-21	4.5-5.5	0	0
	38-44	2.5-28	1.9-21	4.5-5.5	0	0
	44-46	0.3-28	0.2-21	4.5-5.5	0	0
	46-50	0.3-28	0.2-21	4.5-5.5	0	0
	50-58	0.3-28	0.2-21	4.5-5.5	0	0
	58-72	0.3-28	0.2-21	4.5-5.5	0	0
SwtB:						
Swedesboro-----------	0-10	0.3-3.9	0.2-2.9	3.6-4.4	0	0
	10-14	0.3-11	0.2-8.4	4.5-5.5	0	0
	14-26	0.3-6.3	0.2-4.7	4.5-5.5	0	0
	26-30	0.3-11	0.2-8.4	4.5-5.5	0	0
	30-40	0.3-6.3	0.2-4.7	4.5-5.5	0	0
	40-46	0.3-4.7	0.2-3.5	4.5-5.5	0	0
	46-54	0.3-3.1	0.2-2.3	4.5-5.5	0	0
	54-72	0.3-3.1	0.2-2.3	4.5-5.5	0	0

Table 20.--Chemical Properties of the Soils--Continued

Map symbol and soil name	Depth	Cation-exchange capacity	Effective cation-exchange capacity	Soil reaction	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	mmhos/cm	
SwtC:						
Swedesboro----------	0-10	0.3-3.9	0.2-2.9	3.6-4.4	0	0
	10-14	0.3-11	0.2-8.4	4.5-5.5	0	0
	14-26	0.3-6.3	0.2-4.7	4.5-5.5	0	0
	26-30	0.3-11	0.2-8.4	4.5-5.5	0	0
	30-40	0.3-6.3	0.2-4.7	4.5-5.5	0	0
	40-46	0.3-4.7	0.2-3.5	4.5-5.5	0	0
	46-54	0.3-3.1	0.2-2.3	4.5-5.5	0	0
	54-72	0.3-3.1	0.2-2.3	4.5-5.5	0	0
TrkAv:						
Transquaking, very frequently flooded--	0-14	135-195	101-146	6.1-7.3	8.0-32.0	0
	14-30	135-195	101-146	6.1-7.3	8.0-32.0	0
	30-45	135-195	101-146	6.1-7.3	8.0-32.0	0
	45-70	135-195	101-146	6.1-7.3	8.0-32.0	0
	70-90	158-240	118-180	6.1-7.3	8.0-32.0	0
UddfB:						
Udorthents, dredged fine materials------	0-12	6.0-21	4.5-16	5.0-6.0	0	0
	12-72	13-31	9.5-23	4.5-6.5	0	0
UdrB:						
Udorthents, refuse substratum---------	0-60	9.9-21	7.4-16	5.6-7.3	0	0
UdsB:						
Udorthents, sandy substratum---------	0-12	6.0-21	4.5-15	5.0-6.0	0	0
	12-72	0.8-7.4	0.6-5.5	5.1-7.8	0	0
WoeA:						
Woodstown-----------	0-8	2.7-6.5	2.0-4.9	3.6-7.0	0	0
	8-26	2.6-11	2.0-8.0	3.6-6.5	0	0
	26-30	10-18	7.6-13	3.6-6.0	0	0
	30-36	2.6-11	2.0-7.9	3.6-5.8	0	0
	36-80	0.7-8.4	0.5-6.3	3.6-5.5	0	0

Table 21.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
AdkB:									
Adelphia	---	---	---	---	0	0	Moderate	Moderate	High
AhmB:									
Alloway	---	---	---	---	0	0	Moderate	High	Moderate
AhpB:									
Alloway	---	---	---	---	0	0	Moderate	High	Moderate
AhpC:									
Alloway	---	---	---	---	0	0	Moderate	High	Moderate
AhrA:									
Alloway	---	---	---	---	0	0	Moderate	High	Moderate
AhrB:									
Alloway	---	---	---	---	0	0	Moderate	High	Moderate
ApbAv:									
Appoquinimink, very frequently flooded	---	---	---	---	0-4	4-8	High	High	High
Broadkill, very frequently flooded	---	---	---	---	0-8	8-12	High	High	High
AucB:									
Aura	Fragipan	15-40	15-40	Noncemented	0	0	Moderate	Low	High
AugB:									
Aura	Fragipan	15-40	15-50	Noncemented	0	0	Moderate	Moderate	High
AugC:									
Aura	Fragipan	15-40	15-50	Noncemented	0	0	Moderate	Moderate	High
AuhB:									
Aura	Fragipan	15-40	15-30	Noncemented	0	0	Moderate	Low	High
AuhC:									
Aura	Fragipan	15-40	15-30	Noncemented	0	0	Moderate	Low	High
AupA:									
Aura	Fragipan	15-40	15-50	Noncemented	0	0	Moderate	Low	High

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer: Kind	Restrictive layer: Depth to top	Restrictive layer: Thickness	Restrictive layer: Hardness	Subsidence: Initial	Subsidence: Total	Potential for frost action	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
		In	In		In	In			
AupB:									
Aura	Fragipan	15-40	15-50	Noncemented	0	0	Moderate	Moderate	High
BEXAS:									
Berryland, occasionally flooded	---	---	---	---	0	0	Moderate	High	High
Mullica, occasionally flooded	---	---	---	---	0	0	High	High	High
ChsAt:									
Chicone, frequently flooded	---	---	---	---	0	0	High	High	High
ChtA:									
Chillum	---	---	---	---	0	0	High	Moderate	High
ChtB:									
Chillum	---	---	---	---	0	0	High	Moderate	High
DocB:									
Downer	---	---	---	---	0	0	Moderate	Moderate	High
DocC:									
Downer	---	---	---	---	0	0	Moderate	Moderate	High
DoeA:									
Downer	---	---	---	---	0	0	Moderate	Moderate	High
DoeB:									
Downer	---	---	---	---	0	0	Moderate	Moderate	High
DopB:									
Downer	---	---	---	---	0	0	Moderate	Moderate	High
Galestown	---	---	---	---	0	0	Low	Low	High
DouB:									
Downer	---	---	---	---	0	0	Moderate	Moderate	High
Urban land	---	---	---	---	---	---	---	---	---
EveB:									
Evesboro	---	---	---	---	0	0	Low	Low	High

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
EveC:									
Evesboro---------------	---	---	---	---	0	0	Low	Low	High
FmhAt:									
Fluvaquents, loamy, frequently flooded----	---	---	---	---	0	0	High	High	Moderate
FodB:									
Fort Mott--------------	---	---	---	---	0	0	Moderate	Moderate	High
GabB:									
Galestown--------------	---	---	---	---	0	0	Low	Low	High
GamB:									
Galloway---------------	---	---	---	---	0	0	Low	Low	High
HbmB:									
Hammonton--------------	---	---	---	---	0	0	Moderate	Moderate	High
HboA:									
Hammonton--------------	---	---	---	---	0	0	Moderate	Moderate	High
HbrB:									
Hammonton--------------	---	---	---	---	0	0	Moderate	Moderate	High
Urban land-------------	---	---	---	---	---	---	---	---	---
KeoC:									
Keyport----------------	---	---	---	---	0	0	Moderate	High	High
MakAt:									
Manahawkin, frequently flooded---------------	---	---	---	---	2-5	7-13	Moderate	High	High
MamnAv:									
Mannington, very frequently flooded----	---	---	---	---	0	0	High	High	High
Nanticoke, very frequently flooded----	---	---	---	---	0	0	High	High	High
MasB:									
Marlton----------------	---	---	---	---	0	0	Moderate	High	High
MasC:									
Marlton----------------	---	---	---	---	0	0	Moderate	High	High

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
MbrA:									
Matapeake----------------	---	---	---	---	0	0	High	Moderate	High
MbrB:									
Matapeake----------------	---	---	---	---	0	0	High	Moderate	High
MbrC:									
Matapeake----------------	---	---	---	---	0	0	High	Moderate	High
MbuA:									
Mattapex-----------------	---	---	---	---	0	0	High	High	High
MbuB:									
Mattapex-----------------	---	---	---	---	0	0	High	High	High
MbxB:									
Mattapex-----------------	---	---	---	---	0	0	High	High	High
Urban land---------------	---	---	---	---	---	---	---	---	---
MutA:									
Muttontown---------------	---	---	---	---	0	0	Moderate	Moderate	High
OTKA:									
Othello------------------	---	---	---	---	0	0	High	High	High
Fallsington--------------	---	---	---	---	0	0	High	High	High
OTMA:									
Othello------------------	---	---	---	---	0	0	High	High	High
Fallsington--------------	---	---	---	---	0	0	High	High	High
Trussum------------------	---	---	---	---	0	0	High	High	High
PEEAR:									
Pedricktown, rarely flooded-----------------	---	---	---	---	0	0	High	Moderate	Moderate
Askecksy, rarely flooded-----------------	---	---	---	---	0	0	None	High	High
Mullica, rarely flooded	---	---	---	---	0	0	High	High	High
PHG:									
Pits, sand and gravel--	---	---	---	---	0	0	---	Low	High

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
PHM:									
Pits, clay	---	---	---	---	0	0	High	High	Moderate
SacA:									
Sassafras	---	---	---	---	0	0	Moderate	Low	High
SacB:									
Sassafras	---	---	---	---	0	0	Moderate	Low	High
SacC:									
Sassafras	---	---	---	---	0	0	Moderate	Low	High
SafA:									
Sassafras	---	---	---	---	0	0	Moderate	Low	High
SanA:									
Sassafras	---	---	---	---	0	0	Moderate	Low	High
Woodstown	---	---	---	---	0	0	High	Moderate	High
ShnA:									
Sharptown	---	---	---	---	0	0	High	High	High
ShnB:									
Sharptown	---	---	---	---	0	0	High	High	High
SwtB:									
Swedesboro	---	---	---	---	0	0	Moderate	Moderate	High
SwtC:									
Swedesboro	---	---	---	---	0	0	Moderate	Moderate	High
TrkAv:									
Transquaking, very frequently flooded	---	---	---	---	15-25	25-35	High	High	High
UddfB:									
Udorthents, dredged fine materials	---	---	---	---	0	0	---	---	---
UdrB:									
Udorthents, refuse substratum	---	---	---	---	0	0	---	---	---

Table 21.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		In	In		In	In			
UdsB:									
Udorthents, sandy substratum------------	---	---	---	---	0	0	Moderate	Low	High
WoeA:									
Woodstown--------------	---	---	---	---	0	0	High	Moderate	High

Table 22.--Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
AdkB:										
Adelphia------------------	C	Very high	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
AhmB:										
Alloway-------------------	B	Medium	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
AhpB:										
Alloway-------------------	B	Medium	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
AhpC:										
Alloway-------------------	B	High	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
AhrA:										
Alloway-------------------	B	Medium	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
AhrB:										
Alloway-------------------	B	Medium	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
ApbAv:										
Appoquinimink-------------	D	Negligible	Jan-Dec	0	>6.0	0.0-1.0	Very brief	Frequent	Very brief	Very frequent
Broadkill-----------------	D	Negligible	Jan-Dec	0	>6.0	0.0-1.0	Very brief	Frequent	Very brief	Very frequent

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
AucB:										
Aura	B	Low	Jan-Dec	---	---	---	---	None	---	None
AugB:										
Aura	B	Low	Jan-Dec	---	---	---	---	None	---	None
AugC:										
Aura	B	Medium	Jan-Dec	---	---	---	---	None	---	None
AuhB:										
Aura	B	Low	Jan-Dec	---	---	---	---	None	---	None
AuhC:										
Aura	B	Medium	Jan-Dec	---	---	---	---	None	---	None
AupA:										
Aura	B	Low	Jan-Dec	---	---	---	---	None	---	None
AupB:										
Aura	B	Low	Jan-Dec	---	---	---	---	None	---	None
BEXAS:										
Berryland	B/D	Negligible	Jan-Apr	0.0-0.5	>6.0	0.0-1.0	Brief	Occasional	Brief	Occasional
			May-Jun	0.2-1.0	>6.0	0.0-1.0	Brief	Occasional	Brief	Occasional
			Jul-Sep	1.0-1.5	>6.0	0.0-0.5	Very brief	Rare	Very brief	Rare
			Oct-Dec	0.2-1.0	>6.0	0.0-1.0	Brief	Occasional	Brief	Occasional
Mullica	D	Negligible	Jan-Apr	0.0-0.5	>6.0	0.0-1.0	Brief	Occasional	Brief	Occasional
			May-Jun	0.2-1.0	>6.0	0.0-1.0	Brief	Occasional	Brief	Occasional
			Jul-Sep	1.0-1.5	>6.0	0.0-0.5	Very brief	Rare	Very brief	Rare
			Oct-Dec	0.2-1.0	>6.0	0.0-1.0	Brief	Occasional	Brief	Occasional
ChsAt:										
Chicone	D	Negligible	Jan-Apr	0.0-0.5	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			May-Jun	0.2-1.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
			Jul-Sep	1.0-1.5	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
			Oct	0.2-1.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
			Nov-Dec	0.2-1.0	>6.0	0.0-1.0	Brief	Frequent	Brief	Frequent
ChtA:										
Chillum	B	Low	Jan-Dec	---	---	---	---	None	---	None
ChtB:										
Chillum	B	Low	Jan-Dec	---	---	---	---	None	---	None

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
DocB:										
Downer	B	Very low	Jan-Dec	---	---	---	---	None	---	None
DocC:										
Downer	B	Low	Jan-Dec	---	---	---	---	None	---	None
DoeA:										
Downer	B	Very low	Jan-Dec	---	---	---	---	None	---	None
DoeB:										
Downer	B	Very low	Jan-Dec	---	---	---	---	None	---	None
DopB:										
Downer	B	Very low	Jan-Dec	---	---	---	---	None	---	None
Galestown	A	Very low	Jan-Dec	---	---	---	---	None	---	None
DouB:										
Downer	B	Very low	Jan-Dec	---	---	---	---	None	---	None
Urban land	---	---	Jan-Dec	---	---	---	---	None	---	None
EveB:										
Evesboro	A	Very low	Jan-Dec	---	---	---	---	None	---	None
EveC:										
Evesboro	A	Low	Jan-Dec	---	---	---	---	None	---	None
FmhAt:										
Fluvaquents	B/D	Negligible	Jan-May	0.5-1.5	>6.0	0.0-0.5	Brief	Frequent	Brief	Frequent
			Jun-Aug	---	---	---	---	---	---	---
			Sep-Dec	0.5-1.5	>6.0	0.0-0.5	Brief	Frequent	Brief	Frequent
FodB:										
Fort Mott	A	Very low	Jan-Dec	---	---	---	---	None	---	None
GabB:										
Galestown	A	Very low	Jan-Dec	---	---	---	---	None	---	None
GamB:										
Galloway	A	Very low	Jan-Apr	1.0-1.5	>6.0	---	---	None	---	None
			May-Jun	1.5-3.5	>6.0	---	---	None	---	None
			Jul-Sep	3.5-6.0	>6.0	---	---	None	---	None
			Oct-Dec	1.5-3.5	>6.0	---	---	None	---	None

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
HbmB:										
Hammonton	B	Very high	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
HboA:										
Hammonton	B	Very high	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
HbrB:										
Hammonton	B	Very high	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
Urban land	---	---	Jan-Dec	---	---	---	---	None	---	None
KeoC:										
Keyport	C	High	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
MakAt:										
Manahawkin	D	Negligible	Jan-Apr	0.0-0.5	>6.0	0.0-1.0	Long	Frequent	Long	Frequent
			May-Jun	0.2-1.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
			Jul-Sep	1.0-1.5	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
			Oct	0.2-1.0	>6.0	0.0-0.5	Brief	Occasional	Brief	Occasional
			Nov-Dec	0.2-1.0	>6.0	0.0-1.0	Long	Frequent	Long	Frequent
MamnAv:										
Mannington	D	Negligible	Jan-Dec	0.0-0.5	>6.0	0.0-1.0	Very brief	Frequent	Very brief	Very frequent
Nanticoke	D	Negligible	Jan-Dec	0.0-0.5	>6.0	0.0-1.0	Very brief	Frequent	Very brief	Very frequent
MasB:										
Marlton	C	Medium	Jan-Apr	1.5-3.5	2.5-5.0	---	---	None	---	None
			May-Jun	2.0-4.0	2.5-5.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	2.0-4.0	2.5-5.0	---	---	None	---	None

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
MasC:										
Marlton-------------------	C	High	Jan-Apr	1.5-3.5	2.5-5.0	---	---	None	---	None
			May-Jun	2.0-4.0	2.5-5.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	2.0-4.0	2.5-5.0	---	---	None	---	None
MbrA:										
Matapeake-----------------	B	Low	Jan-Dec	---	---	---	---	None	---	None
MbrB:										
Matapeake-----------------	B	Low	Jan-Dec	---	---	---	---	None	---	None
MbrC:										
Matapeake-----------------	B	Medium	Jan-Dec	---	---	---	---	None	---	None
MbuA:										
Mattapex------------------	C	Very high	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
MbuB:										
Mattapex------------------	C	Very high	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
MbxB:										
Mattapex------------------	C	Very high	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
Urban land----------------	---	---	Jan-Dec	---	---	---	---	None	---	None
MutA:										
Muttontown----------------	B	Very low	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
OTKA:										
Othello	C/D	Very high	Jan-Apr	0.0-1.0	>6.0	---	---	None	---	None
			May-Jun	1.0-1.5	>6.0	---	---	None	---	None
			Jul-Sep	1.5-3.5	>6.0	---	---	None	---	None
			Oct-Dec	1.0-1.5	>6.0	---	---	None	---	None
Fallsington	B/D	Very high	Jan-Apr	0.0-1.0	>6.0	---	---	None	---	None
			May-Jun	1.0-1.5	>6.0	---	---	None	---	None
			Jul-Sep	1.5-3.5	>6.0	---	---	None	---	None
			Oct-Dec	1.0-1.5	>6.0	---	---	None	---	None
OTMA:										
Othello	C/D	Very high	Jan-Apr	0.0-1.0	>6.0	---	---	None	---	None
			May-Jun	1.0-1.5	>6.0	---	---	None	---	None
			Jul-Sep	1.5-3.5	>6.0	---	---	None	---	None
			Oct-Dec	1.0-1.5	>6.0	---	---	None	---	None
Fallsington	B/D	Very high	Jan-Apr	0.0-1.0	>6.0	---	---	None	---	None
			May-Jun	1.0-1.5	>6.0	---	---	None	---	None
			Jul-Sep	1.5-3.5	>6.0	---	---	None	---	None
			Oct-Dec	1.0-1.5	>6.0	---	---	None	---	None
Trussum	C/D	Very high	Jan-Apr	0.0-1.0	>6.0	---	---	None	---	None
			May-Jun	1.0-1.5	>6.0	---	---	None	---	None
			Jul-Sep	1.5-3.5	>6.0	---	---	None	---	None
			Oct-Dec	1.0-1.5	>6.0	---	---	None	---	None
PEEAR:										
Pedricktown	D	Negligible	Jan-Apr	0.0-0.5	>6.0	0.0-0.5	Brief	Rare	Brief	Rare
			May	0.2-1.0	>6.0	0.0-0.5	Brief	Rare	Brief	Rare
			Jun	0.2-1.0	>6.0	---	---	---	Very brief	Very rare
			Jul-Sep	1.0-1.5	>6.0	---	---	---	Very brief	Very rare
			Oct-Dec	0.2-1.0	>6.0	0.0-0.5	Brief	Rare	Brief	Rare
Askecksy	A/D	Negligible	Jan-Apr	0.0-1.0	>6.0	0.0-0.5	Brief	Rare	Brief	Rare
			May	1.0-1.5	>6.0	0.0-0.5	Brief	Rare	Brief	Rare
			Jun	1.0-1.5	>6.0	---	---	---	Very brief	Very rare
			Jul-Sep	1.5-3.5	>6.0	---	---	---	Very brief	Very rare
			Oct-Dec	1.0-1.5	>6.0	0.0-0.5	Brief	Rare	Brief	Rare
Mullica	D	Negligible	Jan-Apr	0.0-0.5	>6.0	0.0-0.5	Brief	Rare	Brief	Rare
			May	0.2-1.0	>6.0	0.0-0.5	Brief	Rare	Brief	Rare
			Jun	0.2-1.0	>6.0	---	---	---	Very brief	Very rare
			Jul-Sep	1.0-1.5	>6.0	---	---	---	Very brief	Very rare
			Oct-Dec	0.2-1.0	>6.0	0.0-0.5	Brief	Rare	Brief	Rare

Table 22.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
PHG:										
Pits, sand and gravel	---	---	Jan-Dec	---	---	---	---	None	---	None
PHM:										
Pits	C	Very high	Jan-Apr	1.0-1.5	>6.0	---	---	None	---	None
			May-Jun	1.5-3.5	>6.0	---	---	None	---	None
			Jul-Sep	3.5-6.0	>6.0	---	---	None	---	None
			Oct-Dec	1.5-3.5	>6.0	---	---	None	---	None
SacA:										
Sassafras	B	Low	Jan-Dec	---	---	---	---	None	---	None
SacB:										
Sassafras	B	Low	Jan-Dec	---	---	---	---	None	---	None
SacC:										
Sassafras	B	Medium	Jan-Dec	---	---	---	---	None	---	None
SafA:										
Sassafras	B	Low	Jan-Dec	---	---	---	---	None	---	None
SanA:										
Sassafras	B	Low	Jan-Dec	---	---	---	---	None	---	None
Woodstown	C	Very low	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
ShnA:										
Sharptown	C	Very high	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
ShnB:										
Sharptown	C	Very high	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None
SwtB:										
Swedesboro	B	Very low	Jan-Dec	---	---	---	---	None	---	None

Table 22.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
SwtC:										
Swedesboro----------------	B	Low	Jan-Dec	---	---	---	---	None	---	None
TrkAv:										
Transquaking--------------	D	Negligible	Jan-Dec	0	>6.0	0.0-1.0	Very brief	Frequent	Very brief	Very frequent
UddfB:										
Udorthents----------------	D	Medium	Jan-Dec	---	---	---	---	None	---	None
UdrB:										
Udorthents----------------	D	Low	Jan-Dec	---	---	---	---	None	---	None
UdsB:										
Udorthents----------------	B	Low	Jan-Dec	---	---	---	---	None	---	None
WoeA:										
Woodstown-----------------	C	Very high	Jan-Apr	1.5-3.5	>6.0	---	---	None	---	None
			May-Jun	3.5-6.0	>6.0	---	---	None	---	None
			Jul-Sep	---	---	---	---	None	---	None
			Oct-Dec	3.5-6.0	>6.0	---	---	None	---	None

Table 23.--Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Adelphia	Fine-loamy, mixed, active, mesic Aquic Hapludults
Alloway	Fine, mixed, active, mesic Aquic Paleudults
Appoquinimink	Fine-silty, mixed, active, nonacid, mesic Thapto-Histic Sulfaquents
Askecksy	Siliceous, mesic Typic Psammaquents
Aura	Coarse-loamy, siliceous, semiactive, mesic Typic Fragiudults
Berryland	Sandy, siliceous, mesic Typic Alaquods
Broadkill	Fine-silty, mixed, active, nonacid, mesic Typic Sulfaquents
Chicone	Coarse-silty, mixed, active, acid, mesic Thapto-Histic Fluvaquents
Chillum	Fine-silty, mixed, semiactive, mesic Typic Hapludults
Downer	Coarse-loamy, siliceous, semiactive, mesic Typic Hapludults
Evesboro	Mesic, coated Typic Quartzipsamments
Fallsington	Fine-loamy, mixed, active, mesic Typic Endoaquults
Fluvaquents	Fluvaquents
Fort Mott	Loamy, siliceous, semiactive, mesic Arenic Hapludults
Galestown	Siliceous, mesic Psammentic Hapludults
Galloway	Mesic, coated Aquic Quartzipsamments
Hammonton	Coarse-loamy, siliceous, semiactive, mesic Aquic Hapludults
Keyport	Fine, mixed, semiactive, mesic Aquic Hapludults
Manahawkin	Sandy or sandy-skeletal, siliceous, dysic, mesic Terric Haplosaprists
Mannington	Fine-silty, mixed, active, nonacid, mesic Thapto-Histic Hydraquents
*Marlton	Fine, glauconitic, mesic Oxyaquic Hapludults
Matapeake	Fine-silty, mixed, semiactive, mesic Typic Hapludults
Mattapex	Fine-silty, mixed, active, mesic Aquic Hapludults
Mullica	Coarse-loamy, siliceous, semiactive, acid, mesic Typic Humaquepts
Muttontown	Coarse-loamy, mixed, semiactive, mesic Aquic Hapludults
Nanticoke	Fine-silty, mixed, active, nonacid, mesic Typic Hydraquents
Othello	Fine-silty, mixed, active, mesic Typic Endoaquults
Pedricktown	Coarse-loamy, mixed, active, acid, mesic Humaqueptic Fluvaquents
Sassafras	Fine-loamy, siliceous, semiactive, mesic Typic Hapludults
Sharptown	Fine-silty, mixed, active, mesic Aquic Hapludults
Swedesboro	Coarse-loamy, mixed, semiactive, mesic Typic Hapludults
Transquaking	Euic, mesic Typic Sulfihemists
Trussum	Fine, mixed, active, mesic Typic Paleaquults
Udorthents	Udorthents
Woodstown	Fine-loamy, mixed, active, mesic Aquic Hapludults

Table 24.--Relationship Between Major Landforms, Soil Characteristics, and Drainage of Soils

Soil characteristics	Excessively drained and somewhat excessively drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
	MINERAL SOILS ON UPLANDS AND LOWLANDS; NOT SUBJECT TO FREQUENT FLOODING					
SANDY SUBSOIL						
Do not have spodic or spodic-like materials	Evesboro Galestown		Galloway		Askecksy	
Spodic or spodic-like materials below a bleached layer						Berryland
LOAMY SUBSOIL						
Dominantly sandy loam subsoil						
Without fragipan		Downer Fort Mott	Hammonton Muttontown			Mullica
With fragipan		Aura				
Dominantly sandy loam or fine sandy loam subsoil with low content of glauconite		Swedesboro				
Texture varies throughout, loamy and sandy recent alluvial deposits						Pedricktown
Dominantly sandy clay loam subsoil						
Without glauconite		Sassafras	Woodstown		Fallsington	
Moderate content of glauconite			Adelphia			
Dominantly silt loam or silty clay loam subsoil without glauconite						
Without dense firm layer in the substratum		Matapeake	Mattapex		Othello	
With dense firm layer in the substratum		Chillum				

Table 24.--Relationship Between Major Landforms, Soil Characteristics, and Drainage of Soils--Continued

Soil characteristics	Excessively drained and somewhat excessively drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
	MINERAL SOILS ON UPLANDS AND LOWLANDS; NOT SUBJECT TO FREQUENT FLOODING--Continued					
LOAMY SUBSOIL (Continued)						
Dominantly silt loam or silty clay loam subsoil with a high content of glauconite in the substratum			Sharptown			
Texture varies throughout but dominantly recent loamy deposits from human activity		Udorthents	Udorthents			
CLAYEY SUBSOIL						
Without glauconite			Alloway Keyport		Trussum	
High content of glauconite			Marlton			
	SOILS ON FLOOD PLAINS AND LOWLANDS; SUBJECT TO FREQUENT FLOODING					
ALLUVIAL SEDIMENTS OR ORGANIC MATERIALS						
Dominantly loamy textured recent alluvial sediments throughout				Fluvaquents	Fluvaquents	
Silty textured recent alluvial sediments underlain by organic layers 16 to 45 inches thick						Chicone
Organic layers 16 to 51 inches thick underlain by sandy marine sediments						Manahawkin

Table 24.--Relationship Between Major Landforms, Soil Characteristics, and Drainage of Soils--Continued

Soil characteristics	Excessively drained and somewhat excessively drained	Well drained	Moderately well drained	Somewhat poorly drained	Poorly drained	Very poorly drained
	SOILS ON TIDALLY INFLUENCED ESTUARINE MARSHES; SUBJECT TO DAILY FLOODING					
FRESHWATER ESTUARINE MARSHES						
Silty textured mineral layers throughout						Nanticoke
Silty textured mineral layers underlain by organic layers 10 to 35 inches thick						Mannington
BRACKISH ESTUARINE TIDAL MARSHES						
Organic layers more than 51 inches thick underlain by silty or clayey mineral sediments						Transquaking
Silty fluvial sediments underlain by organic materials						
Silty sediments 16 to 40 inches thick						Appoquinimink
Silty sediments more than 40 inches thick						Broadkill

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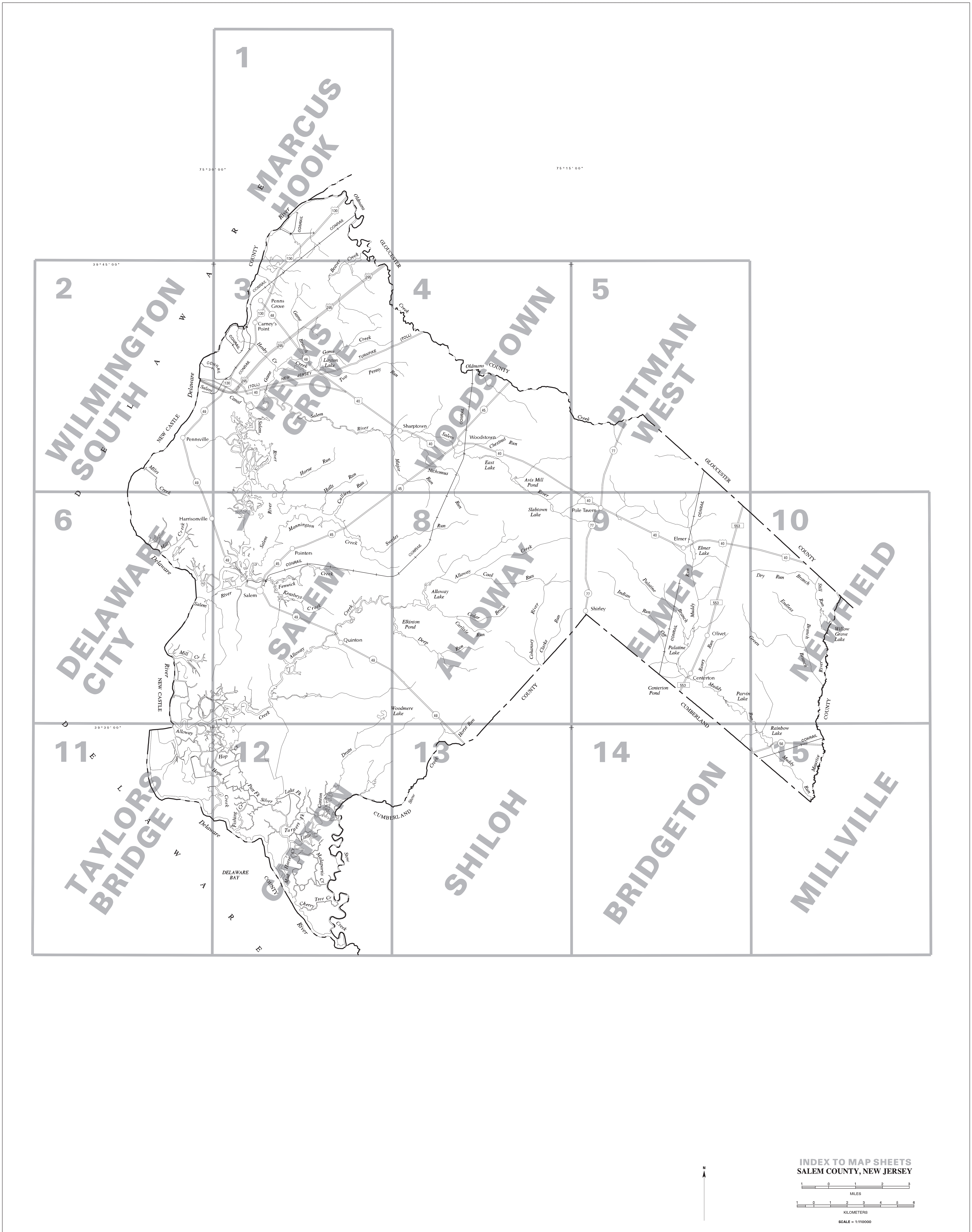

1
MARCUS HOOK
2
WILMINGTON SOUTH
3
PENNS GROVE
4
WOODSTOWN
5
PITMAN WEST
6
DELAWARE CITY
7
SALEM
8
ALLOWAY
9
ELMER
10
NEWFIELD
11
TAYLORS BRIDGE
12
CANTON
13
SHILOH
14
BRIDGETON
15
MILLVILLE
INDEX TO MAP SHEETS
SALEM COUNTY, NEW JERSEY
MILES
KILOMETERS
SCALE = 1:110000

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY

NEW JERSEY AGRICULTURAL EXPERIMENT STATION; RUTGERS, THE STATE UNIVERSITY OF NEW JERSEY
NEW JERSEY DEPARTMENT OF AGRICULTURE, STATE SOIL CONSERVATION COMMITTEE
SALEM COUNTY SOIL CONSERVATION DISTRICT

SOIL LEGEND

SYMBOL	NAME
AdkB	Adelphia sandy loam, 2 to 5 percent slopes
AhmB	Alloway sandy loam, 2 to 5 percent slopes
AhpB	Alloway loam, 2 to 5 percent slopes
AhpC	Alloway loam, 5 to 10 percent slopes
AhrA	Alloway silt loam, 0 to 2 percent slopes
AhrB	Alloway silt loam, 2 to 5 percent slopes
ApbAv	Appoquinimink-Broadkill complex, 0 to 1 percent slopes, very frequently flooded
AucB	Aura loamy sand, 0 to 5 percent slopes
AugB	Aura sandy loam, 2 to 5 percent slopes
AugC	Aura sandy loam, 5 to 10 percent slopes
AuhB	Aura gravelly sandy loam, 2 to 5 percent slopes
AuhC	Aura gravelly sandy loam, 5 to 10 percent slopes
AupA	Aura loam, 0 to 2 percent slopes
AupB	Aura loam, 2 to 5 percent slopes
BEXAS	Berryland and Mullica soils, 0 to 2 percent slopes, occasionally flooded
ChsAt	Chicone silt loam, 0 to 1 percent slopes, frequently flooded
ChtA	Chillum silt loam, 0 to 2 percent slopes
ChtB	Chillum silt loam, 2 to 5 percent slopes
DocB	Downer loamy sand, 0 to 5 percent slopes
DocC	Downer loamy sand, 5 to 10 percent slopes
DoeA	Downer sandy loam, 0 to 2 percent slopes
DoeB	Downer sandy loam, 2 to 5 percent slopes
DopB	Downer-Galestown complex, 0 to 5 percent slopes
DouB	Downer-Urban land complex, 0 to 5 percent slopes
EveB	Evesboro sand, 0 to 5 percent slopes
EveC	Evesboro sand, 5 to 10 percent slopes
FmhAt	Fluvaquents, loamy, 0 to 3 percent slopes, frequently flooded
FodB	Fort Mott loamy sand, 0 to 5 percent slopes
GabB	Galestown sand, 0 to 5 percent slopes
GamB	Galloway loamy sand, 0 to 5 percent slopes
HbmB	Hammonton loamy sand, 0 to 5 percent slopes
HboA	Hammonton sandy loam, 0 to 2 percent slopes
HbrB	Hammonton-Urban land complex, 0 to 2 percent slopes
KeoC	Keyport loam, 5 to 10 percent slopes
MakAt	Manahawkin muck, 0 to 2 percent slopes, frequently flooded
MamnAv	Mannington-Nanticoke complex, 0 to 1 percent slopes, very frequently flooded
MasB	Marlton silt loam, 2 to 5 percent slopes
MasC	Marlton silt loam, 5 to 10 percent slopes
MbrA	Matapeake silt loam, 0 to 2 percent slopes
MbrB	Matapeake silt loam, 2 to 5 percent slopes
MbrC	Matapeake silt loam, 5 to 10 percent slopes
MbuA	Mattapex silt loam, 0 to 2 percent slopes
MbuB	Mattapex silt loam, 2 to 5 percent slopes
MbxB	Mattapex-Urban land complex, 0 to 5 percent slopes
MutA	Muttontown sandy loam, 0 to 2 percent slopes
OTKA	Othello and Fallsington soils, 0 to 2 percent slopes
OTMA	Othello, Fallsington, and Trussum soils, 0 to 2 percent slopes
PEEAR	Pedricktown, Askecksy, and Mullica soils, 0 to 2 percent slopes, rarely flooded
PHG	Pits, sand and gravel
PHM	Pits, clay
SacA	Sassafras sandy loam, 0 to 2 percent slopes
SacB	Sassafras sandy loam, 2 to 5 percent slopes
SacC	Sassafras sandy loam, 5 to 10 percent slopes
SafA	Sassafras loam, 0 to 2 percent slopes
SanA	Sassafras-Woodstown complex, 0 to 2 percent slopes
ShnA	Sharptown silt loam, 0 to 2 percent slopes
ShnB	Sharptown silt loam, 2 to 5 percent slopes
SwtB	Swedesboro loamy sand, 0 to 5 percent slopes
SwtC	Swedesboro loamy sand, 5 to 10 percent slopes
TrkAv	Transquaking mucky peat, 0 to 1 percent slopes, very frequently flooded
UddfB	Udorthents, dredged fine material, 0 to 8 percent slopes
UdrB	Udorthents, refuse substratum, 0 to 8 percent slopes
UdsB	Udorthents, sandy substratum, 0 to 8 percent slopes
UR	Urban land
WATER	Water
WoeA	Woodstown sandy loam, 0 to 2 percent slopes

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

CULTURAL FEATURES

BOUNDARIES

- National, state, or province
- County or parish
- Minor civil division
- Reservation (national forest or park, state forest or park)
- Land grant
- Limit of soil survey and/or denied access area
- Field sheet matchline & neatline
- Previously Published Survey

OTHER BOUNDARY

- Airport, airfield
- Cemetery
- City/county park

STATE COORDINATE TICK
1 890 000 FEET

LAND DIVISION CORNER
(section and land grants)

GEOGRAPHIC COORDINATE TICK

TRANSPORTATION

- Divided roads
- Other roads
- Trail

ROAD EMBLEMS AND DESIGNATIONS

- Interstate 173 79 345
- Federal 287 410 224
- State 52 52 347
- County, farm or ranch 1283

RAILROAD

POWER TRANSMISSION LINE

PIPELINE

FENCE

LEVEES

- Without road
- With road
- With railroad
- Single side slope (showing actual feature location)

DAMS

- Medium or Small

LANDFORM FEATURES

- Prominent hill or peak
- Soil Sample Site

CULTURAL FEATURES

MISCELLANEOUS CULTURAL FEATURES

- Farmstead, house
- Church
- School
- Other Religion — Mt Carmel
- Located object — Ranger Station
- Tank — Petroleum
- Lookout Tower
- Oil and/or Natural Gas Wells
- Windmill
- Lighthouse

HYDROGRAPHIC FEATURES

STREAMS

- Perennial, double line
- Perennial, single line
- Intermittent
- Drainage end

DRAINAGE AND IRRIGATION

- Double-line canal — CANAL
- Perennial drainage and/or irrigation ditch
- Intermittent drainage and/or irrigation ditch

SMALL LAKES, PONDS, AND RESERVOIRS

- Perennial water
- Miscellaneous water
- Flood pool line — FLOOD POOL LINE

MISCELLANEOUS WATER FEATURES

- Spring
- Well, artesian
- Well, irrigation

SPECIAL SYMBOLS FOR SOIL SURVEY AND SSURGO

SOIL DELINEATIONS AND SYMBOLS — FrfB SabB

LANDFORM FEATURES

- Bedrock escarpments
- Other than bedrock escarpments
- Short steep slope
- Gully
- Depression, closed
- Sinkhole

EXCAVATIONS

- Borrow pits
- Gravel pit
- Mine or quarry
- Landfill

MISCELLANEOUS SURFACE FEATURES

- Blowout
- Clay spot
- Gravelly spot
- Lava flow
- Marsh or swamp
- Rock outcrop (includes sandstone and shale)
- Saline spot
- Sandy spot
- Severely eroded spot
- Slide or slip
- Sodic spot
- Spoil area
- Stony spot
- Very stony spot
- Wet spot

75° 30′00″ 75° 27′30″ 75° 25′00″ 75° 22′30″

39° 52′30″ 39° 50′00″ 39° 47′30″ 39° 45′00″

75° 30′00″ 75° 27′30″ 75° 25′00″ 75° 22′30″

Joins sheet 2, Wilmington South

Joins sheet 3, Penns Grove

Joins sheet 4, Woodstown

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Soil lines were compiled on orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991 (1:24,000) aerial photography. The photo background for this map is an orthophotograph prepared by the U.S. Department of the Interior, Geological Survey, from 1995-1997 aerial photography. Hydrographic lines were developed by NRCS - New Jersey as a navigational aid, and should not be used for any other purpose.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 18. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quarterquadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

2	3	4	

2 WILMINGTON SOUTH
3 PENNS GROVE
4 WOODSTOWN

INDEX TO ADJOINING 7.5 MAPS

MARCUS HOOK, NEW JERSEY

7.5 MINUTE SERIES
SHEET NUMBER 1 OF 15

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 1, Marcus Hook

75° 37′30″ 75° 35′00″ 75° 32′30″ 75° 30′00″

39° 45′00″ 39° 45′00″

39° 42′30″ 39° 42′30″

39° 40′00″ 39° 40′00″

39° 37′30″ 39° 37′30″

Joins sheet 3, Penns Grove

75° 37′30″ 75° 35′00″ 75° 32′30″ 75° 30′00″

Joins sheet 6, Delaware City

Joins sheet 7, Salem

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Soil lines were compiled on orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991 (1:24,000) aerial photography. The photo background for this map is an orthophotograph prepared by the U.S. Department of the Interior, Geological Survey, from 1995-1997 aerial photography. Hydrographic lines were developed by NRCS - New Jersey as a navigational aid, and should not be used for any other purpose.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 18. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quarterquadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

MILES: 1 0 1

FEET: 1000 0 1000 2000 3000 4000 5000 6000 7000

KILOMETERS: 1 0 1

		1
	■	3
	6	7

1 MARCUS HOOK
3 PENNS GROVE
6 DELAWARE CITY
7 SALEM

INDEX TO ADJOINING 7.5 MAPS

WILMINGTON SOUTH, NEW JERSEY

7.5 MINUTE SERIES
SHEET NUMBER 2 OF 15

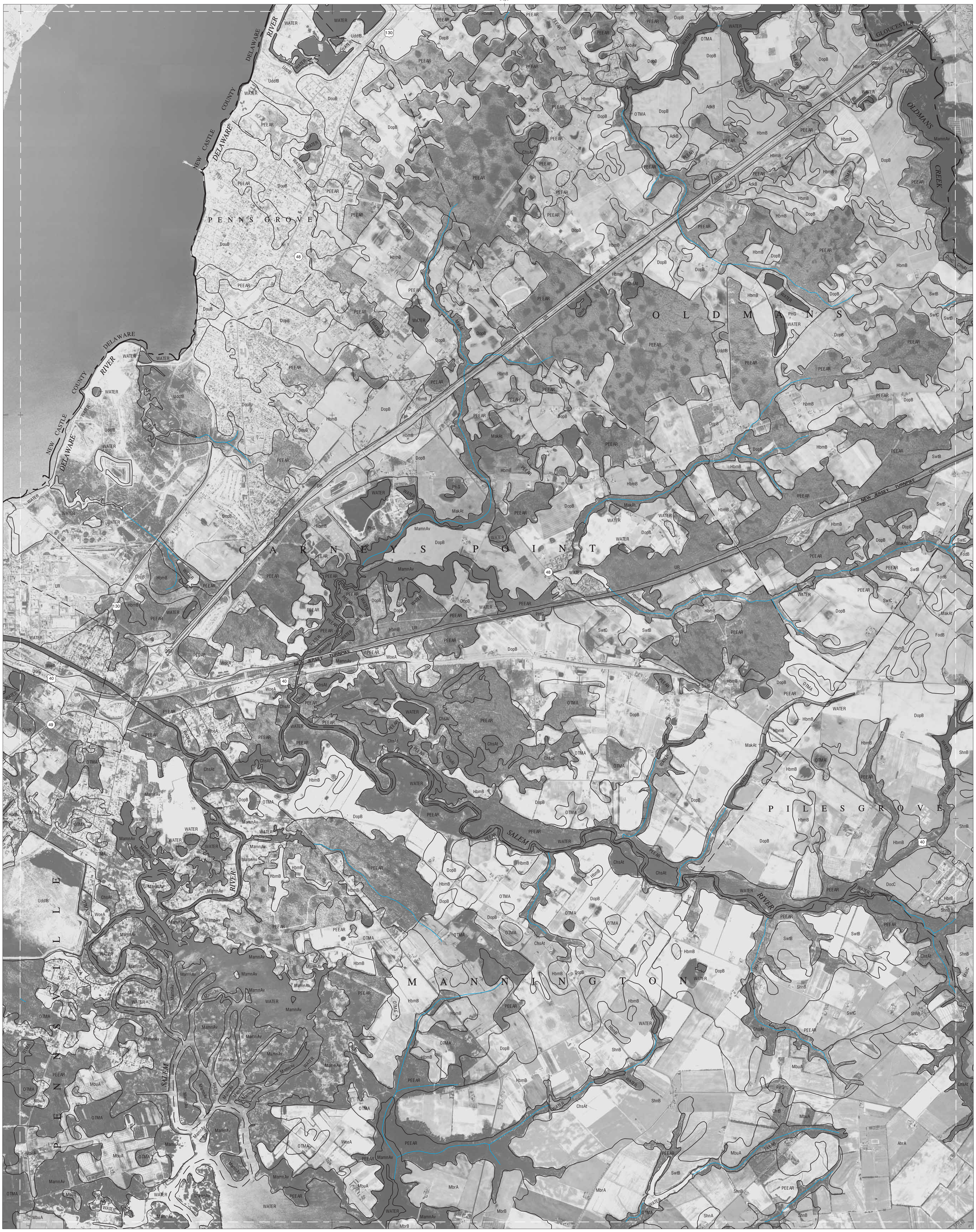
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY
PENNS GROVE QUADRANGLE
SHEET NUMBER 3 OF 15

75° 30'00" | 75° 27'30" | 75° 25'00" | 75° 22'30"

Joins sheet 1, Marcus Hook



39° 45'00" | 39° 42'30" | 39° 40'00" | 39° 37'30"

Joins sheet 2, Wilmington South

Joins sheet 4, Woodstown

75° 30'00" | 75° 27'30" | 75° 25'00" | 75° 22'30"

Joins sheet 6, Delaware City

Joins sheet 7, Salem

Joins sheet 8, Alloway

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Soil lines were compiled on orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991 (1:24,000) aerial photography. The photo background for this map is an orthophotograph prepared by the U.S. Department of the Interior, Geological Survey, from 1995-1997 aerial photography. Hydrographic lines were developed by NRCS - New Jersey as a navigational aid, and should not be used for any other purpose.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 18. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quarterquadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 | 0 | 1 MILES

1000 | 0 | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 FEET

1 | 0 | 1 KILOMETERS

1 MARCUS HOOK
2 WILMINGTON SOUTH
4 WOODSTOWN
6 DELAWARE CITY
7 SALEM
8 ALLOWAY

INDEX TO ADJOINING 7.5 MAPS

PENNS GROVE, NEW JERSEY
7.5 MINUTE SERIES
SHEET NUMBER 3 OF 15

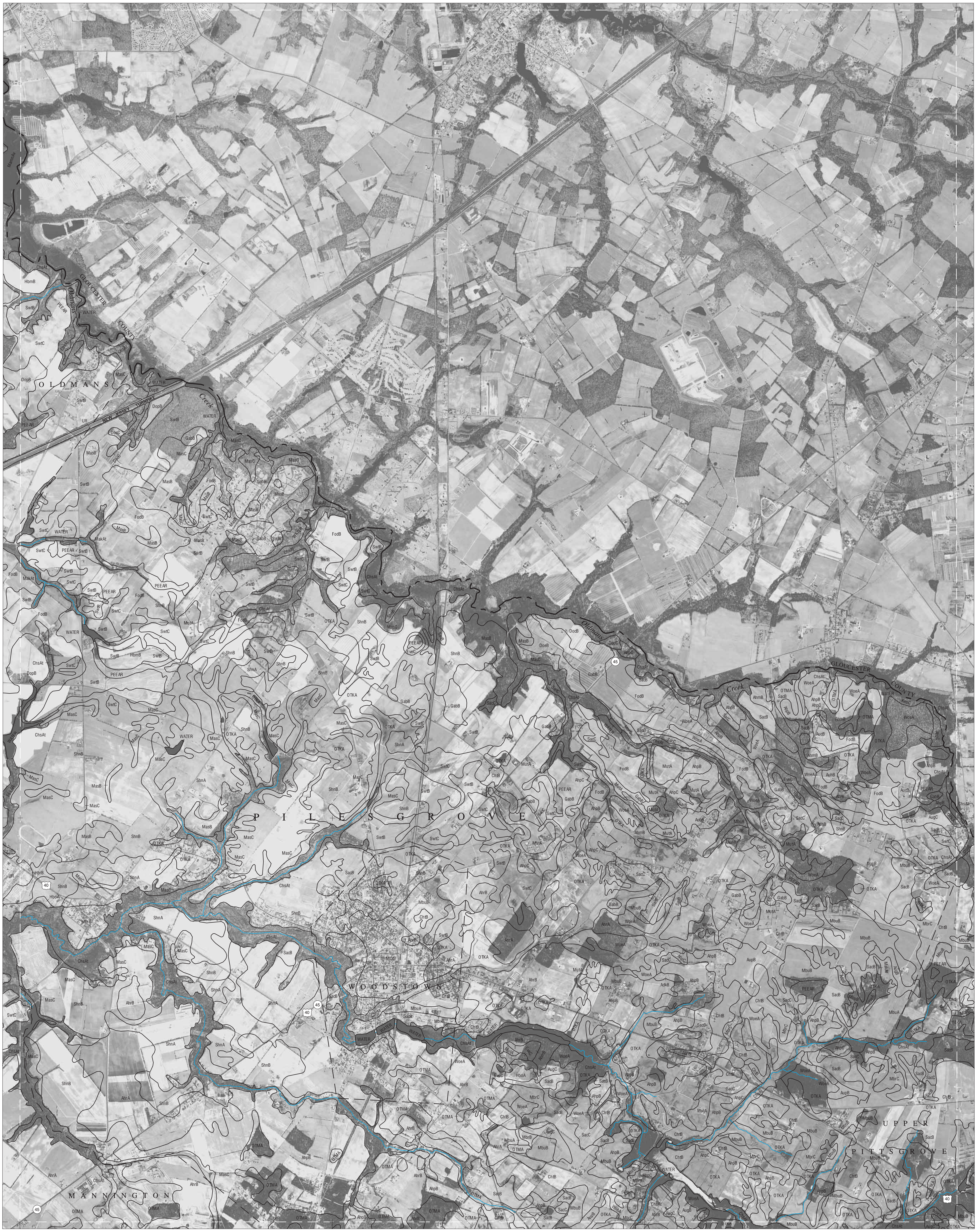
Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

Joins sheet 1, Marcus Hook

75° 22′30″ | 75° 20′00″ | 75° 17′30″ | 75° 15′00″

39° 45′00″



39° 42′30″

39° 40′00″

39° 37′30″

Joins sheet 3, Penns Grove

Joins sheet 5, Pitman West

75° 22′30″ | 75° 20′00″ | 75° 17′30″ | 75° 15′00″

Joins sheet 7, Salem

Joins sheet 8, Alloway

Joins sheet 9, Elmer

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 18. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quarterquadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

INDEX TO ADJOINING 7.5 MAPS

1 MARCUS HOOK
3 PENNS GROVE
5 PITMAN WEST
7 SALEM
8 ALLOWAY
9 ELMER

WOODSTOWN, NEW JERSEY
7.5 MINUTE SERIES
SHEET NUMBER 4 OF 15

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY
PITMAN WEST QUADRANGLE
SHEET NUMBER 5 OF 15

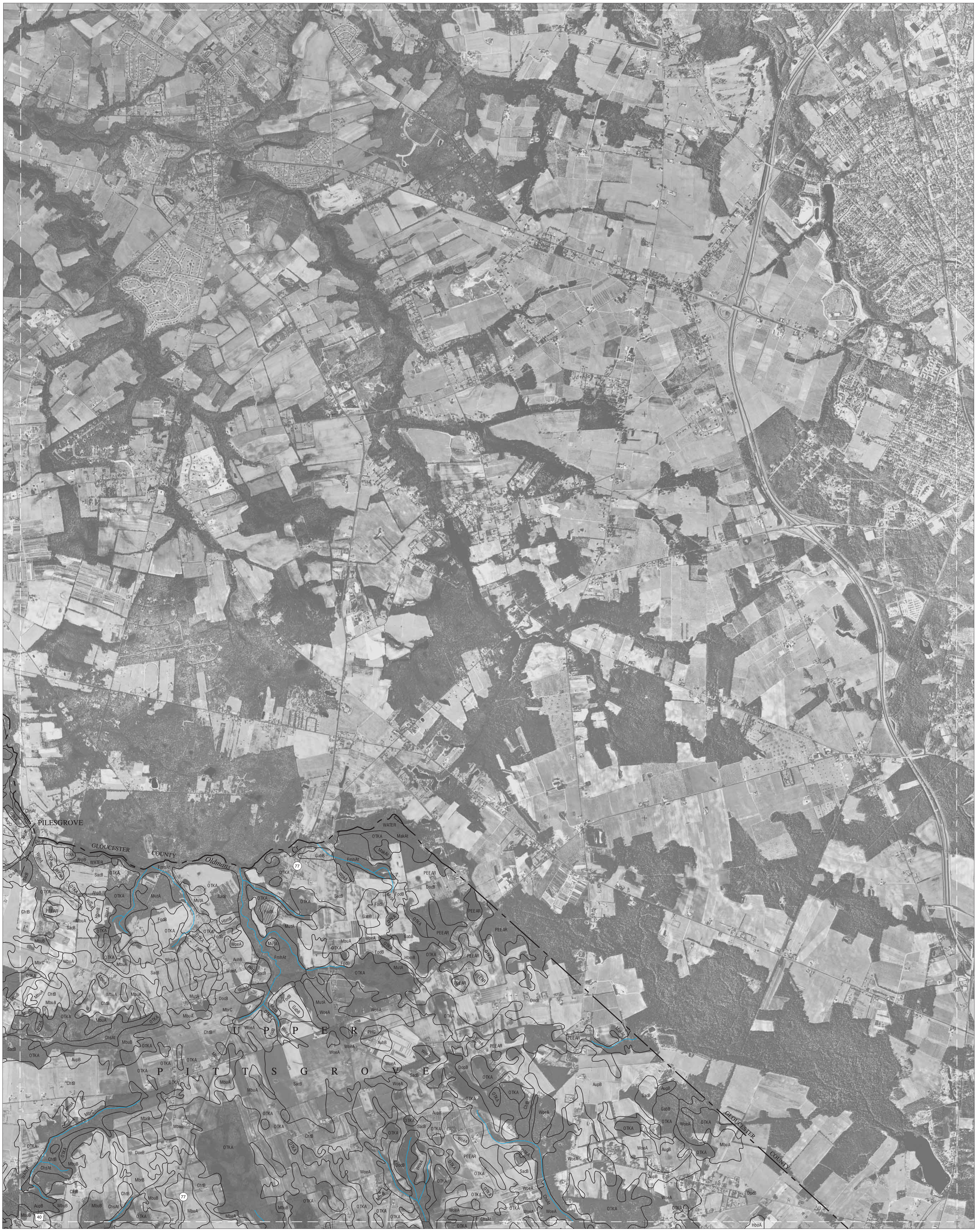
75°15′00″ 75°12′30″ 75°10′00″ 75°07′30″

39° 45′00″

39° 42′30″

39° 40′00″

39° 37′30″



Joins sheet 4, Woodstown

75°15′00″ 75°12′30″ 75°10′00″ 75°07′30″

Joins sheet 8, Alloway

Joins sheet 9, Elmer

Joins sheet 10, Newfield

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Soil lines were compiled on orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991 (1:24,000) aerial photography. The photo background for this map is an orthophotograph prepared by the U.S. Department of the Interior, Geological Survey, from 1995-1997 aerial photography. Hydrographic lines were developed by NRCS - New Jersey as a navigational aid, and should not be used for any other purpose.

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

4	■	
8	9	10

4 WOODSTOWN
8 ALLOWAY
9 ELMER
10 NEWFIELD

INDEX TO ADJOINING 7.5 MAPS

PITMAN WEST, NEW JERSEY
7.5 MINUTE SERIES
SHEET NUMBER 5 OF 15

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY
DELAWARE CITY QUADRANGLE
SHEET NUMBER 6 OF 15

Joins sheet 3, Penns Grove

Joins sheet 2, Wilmington South

75° 37′30″ 75° 35′00″ 75° 32′30″ 75° 30′00″

39° 37′30″ 39° 35′00″ 39° 32′30″ 39° 30′00″

Joins sheet 7, Salem

75° 37′30″ 75° 35′00″ 75° 32′30″ 75° 30′00″

Joins sheet 11, Taylors Bridge

Joins sheet 12, Canton

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Soil lines were compiled on orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991 (1:24,000) aerial photography. The photo background for this map is an orthophotograph prepared by the U.S. Department of the Interior, Geological Survey, from 1995-1997 aerial photography. Hydrographic lines were developed by NRCS - New Jersey as a navigational aid, and should not be used for any other purpose.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 18. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quarterquadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

2	3
	7
11	12

2 WILMINGTON SOUTH
3 PENNS GROVE
7 SALEM
11 TAYLORS BRIDGE
12 CANTON

INDEX TO ADJOINING 7.5 MAPS

DELAWARE CITY, NEW JERSEY
7.5 MINUTE SERIES
SHEET NUMBER 6 OF 15

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

Joins sheet 2, Wilmington South

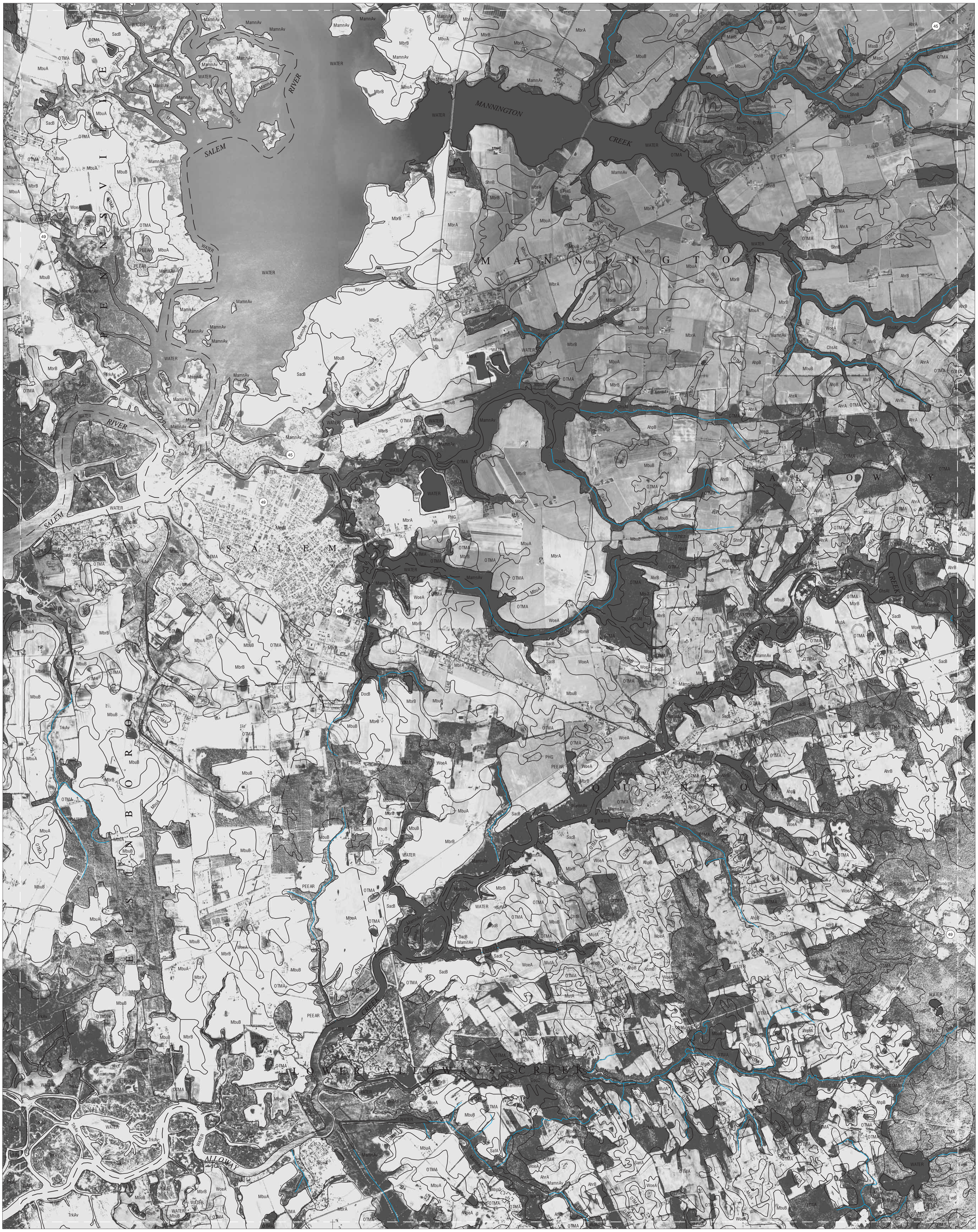
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY
SALEM QUADRANGLE
SHEET NUMBER 7 OF 15

Joins sheet 4, Woodstown

75° 30′00″ — Joins sheet 3, Penns Grove — 75° 27′30″ — 75° 25′00″ — 75° 22′30″

39° 37′30″



39° 35′00″ — 39° 32′30″ — 39° 30′00″

Joins sheet 6, Delaware City — Joins sheet 8, Alloway

75° 30′00″ — 75° 27′30″ — Joins sheet 12, Canton — 75° 25′00″ — 75° 22′30″

Joins sheet 11, Taylors Bridge — Joins sheet 13, Shiloh

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Soil lines were compiled on orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991 (1:24,000) aerial photography. The photo background for this map is an orthophotograph prepared by the U.S. Department of the Interior, Geological Survey, from 1995-1997 aerial photography. Hydrographic lines were developed by NRCS - New Jersey as a navigational aid, and should not be used for any other purpose.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 18. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quarterquadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 — 0 — 1
MILES

1000 — 0 — 1000 — 2000 — 3000 — 4000 — 5000 — 6000 — 7000
FEET

1 — 0 — 1
KILOMETERS

2	3	4
6		8
11	12	13

2 WILMINGTON SOUTH
3 PENNS GROVE
4 WOODSTOWN
6 DELAWARE CITY
8 ALLOWAY
11 TAYLORS BRIDGE
12 CANTON
13 SHILOH

INDEX TO ADJOINING 7.5 MAPS

SALEM, NEW JERSEY
7.5 MINUTE SERIES
SHEET NUMBER 7 OF 15

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY
ALLOWAY QUADRANGLE
SHEET NUMBER 8 OF 15

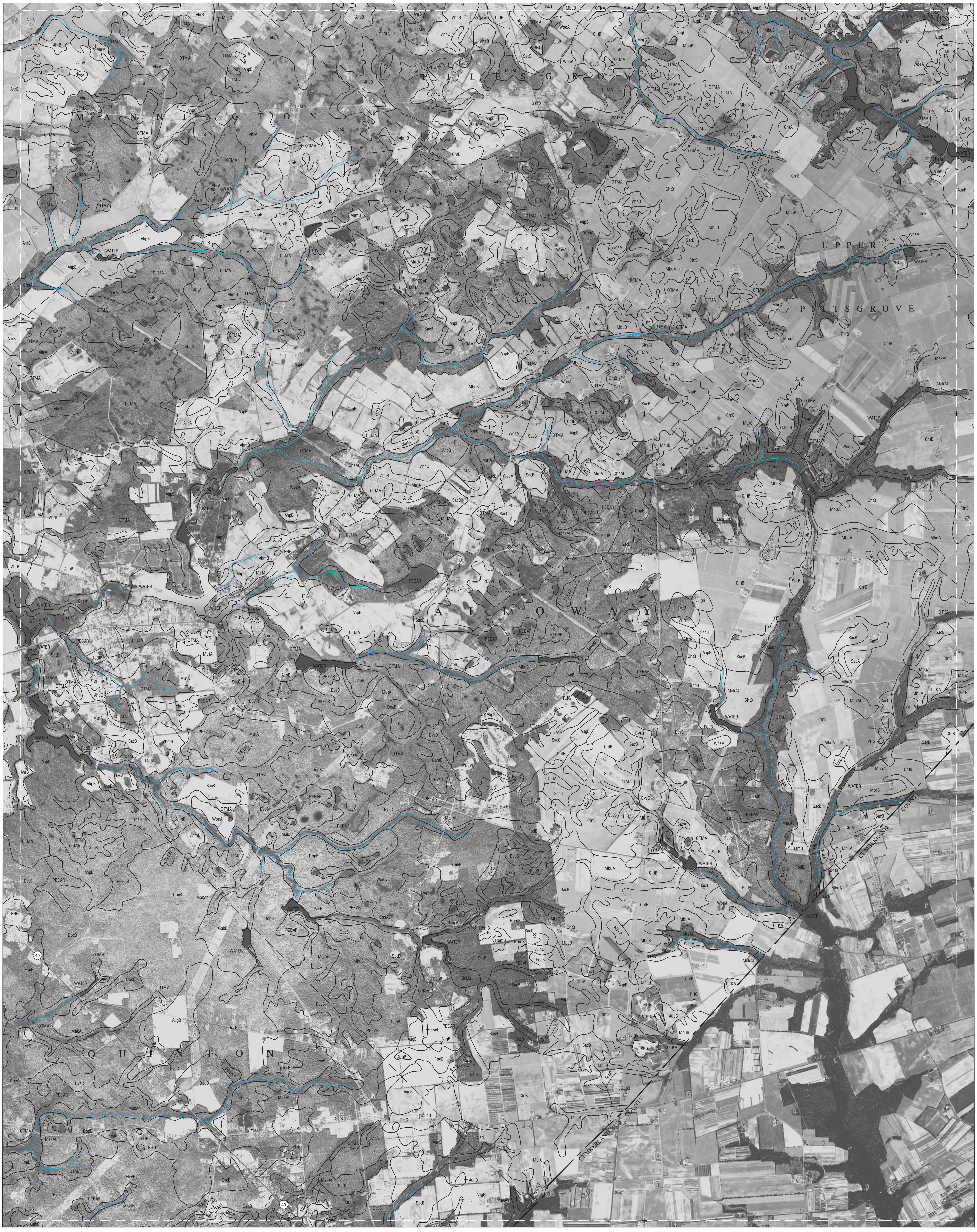
Joins sheet 3, Penns Grove

Joins sheet 4, Woodstown

Joins sheet 5, Pitman West

75° 22′30″ 75° 20′00″ 75° 17′30″ 75° 15′00″

39° 37′30″ 39° 35′00″ 39° 32′30″ 39° 30′00″



Joins sheet 7, Salem

Joins sheet 9, Elmer

PEEAR

75° 22′30″ 75° 20′00″ 75° 17′30″ 75° 15′00″

Joins sheet 12, Canton

Joins sheet 13, Shiloh

Joins sheet 14, Bridgeton

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NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

3	4	5
7		9
12	13	14

3 PENNS GROVE
4 WOODSTOWN
5 PITMAN WEST
7 SALEM
9 ELMER
12 CANTON
13 SHILOH
14 BRIDGETON

INDEX TO ADJOINING 7.5 MAPS

ALLOWAY, NEW JERSEY
7.5 MINUTE SERIES
SHEET NUMBER 8 OF 15

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

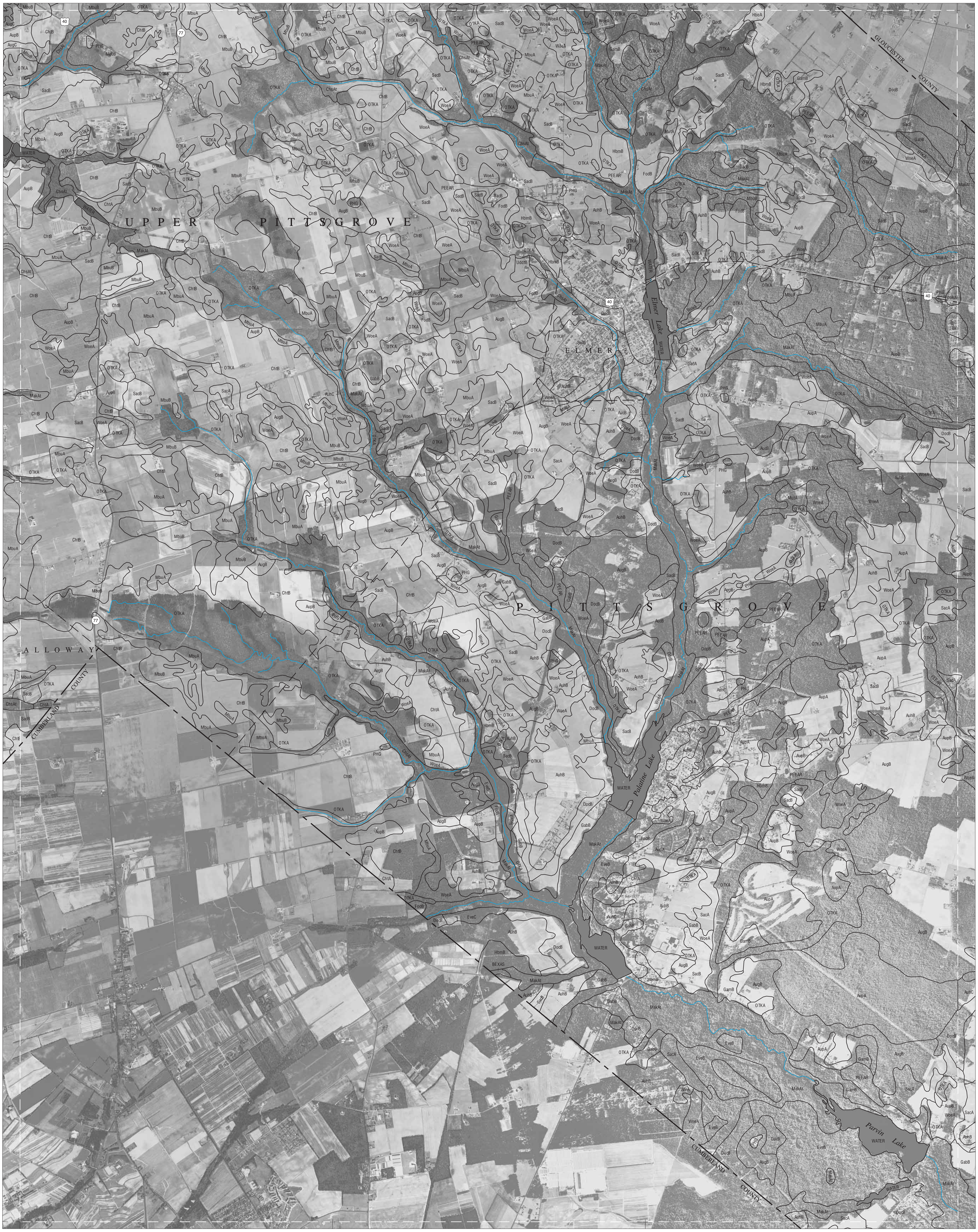
UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY
ELMER QUADRANGLE
SHEET NUMBER 9 OF 15

Joins sheet 4, Woodstown

Joins sheet 5, Pitman West

75°15′00″ 75°12′30″ 75°10′00″ 75°07′30″



39°37′30″ 39°35′00″ 39°32′30″ 39°30′00″

Joins sheet 8, Alloway

Joins sheet 10, Newfield

75°15′00″ 75°12′30″ 75°10′00″ 75°07′30″

Joins sheet 13, Shiloh

Joins sheet 14, Bridgeton

Joins sheet 15, Millville

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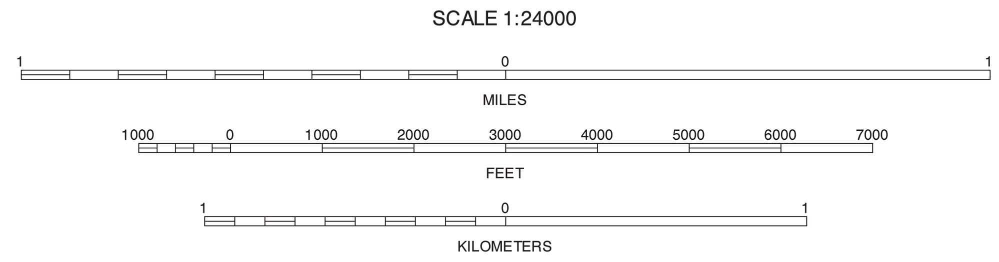
NORTH

QUADRANGLE LOCATION

SCALE 1:24000



4	5	
8		10
13	14	15

4 WOODSTOWN
5 PITMAN WEST
8 ALLOWAY
10 NEWFIELD
13 SHILOH
14 BRIDGETON
15 MILLVILLE

INDEX TO ADJOINING 7.5 MAPS

ELMER, NEW JERSEY
7.5 MINUTE SERIES
SHEET NUMBER 9 OF 15

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY
NEWFIELD QUADRANGLE
SHEET NUMBER 10 OF 15

Joins sheet 5, Pitman West

75° 07′30″ 75° 05′00″ 75° 02′30″ 75° 00′00″

39° 37′30″

39° 35′00″ 39° 32′30″ 39° 30′00″

Joins sheet 9, Elmer

75° 07′30″ 75° 05′00″ 75° 02′30″ 75° 00′00″

Joins sheet 15, Millville

Joins sheet 14, Bridgeton

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North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 18. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quarterquadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

5		
9	■	
14	15	

5 PITMAN WEST
9 ELMER
14 BRIDGETON
15 MILLVILLE

INDEX TO ADJOINING 7.5 MAPS

NEWFIELD, NEW JERSEY
7.5 MINUTE SERIES
SHEET NUMBER 10 OF 15

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY
TAYLORS BRIDGE QUADRANGLE
SHEET NUMBER 11 OF 15

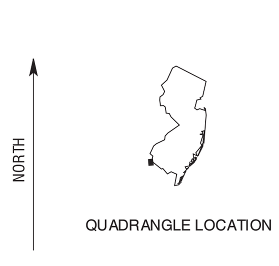
Joins sheet 6, Delaware City

Joins sheet 7, Salem

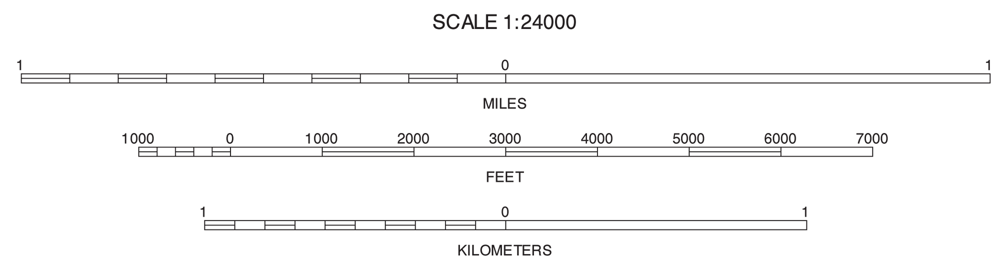
Joins sheet 12, Canton

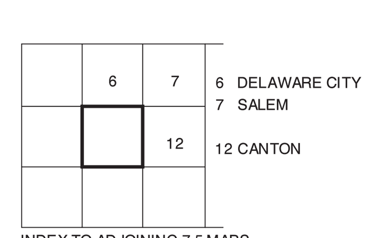
This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Soil lines were compiled on orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991 (1:24,000) aerial photography. The photo background for this map is an orthophotograph prepared by the U.S. Department of the Interior, Geological Survey, from 1995-1997 aerial photography. Hydrographic lines were developed by NRCS - New Jersey as a navigational aid, and should not be used for any other purpose.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 18. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quarterquadrangle.



SCALE 1:24000





TAYLORS BRIDGE, NEW JERSEY
7.5 MINUTE SERIES
SHEET NUMBER 11 OF 15

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY
CANTON QUADRANGLE
SHEET NUMBER 12 OF 15

Joins sheet 6, Delaware City

Joins sheet 7, Salem

Joins sheet 8, Alloway

75° 30′00″ | 75° 27′30″ | 75° 25′00″ | 75° 22′30″

Joins sheet 11, Taylors Bridge

Joins sheet 13, Shiloh

75° 30′00″ | 75° 27′30″ | 75° 25′00″ | 75° 22′30″

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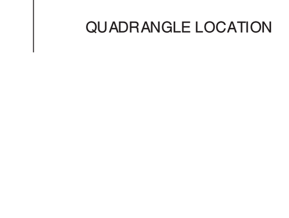
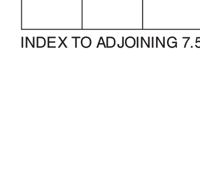
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 18. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quarterquadrangle.



QUADRANGLE LOCATION

SCALE 1:24000



6 DELAWARE CITY
7 SALEM
8 ALLOWAY
11 TAYLORS BRIDGE
13 SHILOH

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CANTON, NEW JERSEY

7.5 MINUTE SERIES
SHEET NUMBER 12 OF 15

Soil map delineations extending beyond the dashed white quadrangle neatline are for reference only and are included on adjacent map sheets.

UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY
SHILOH QUADRANGLE
SHEET NUMBER 13 OF 15

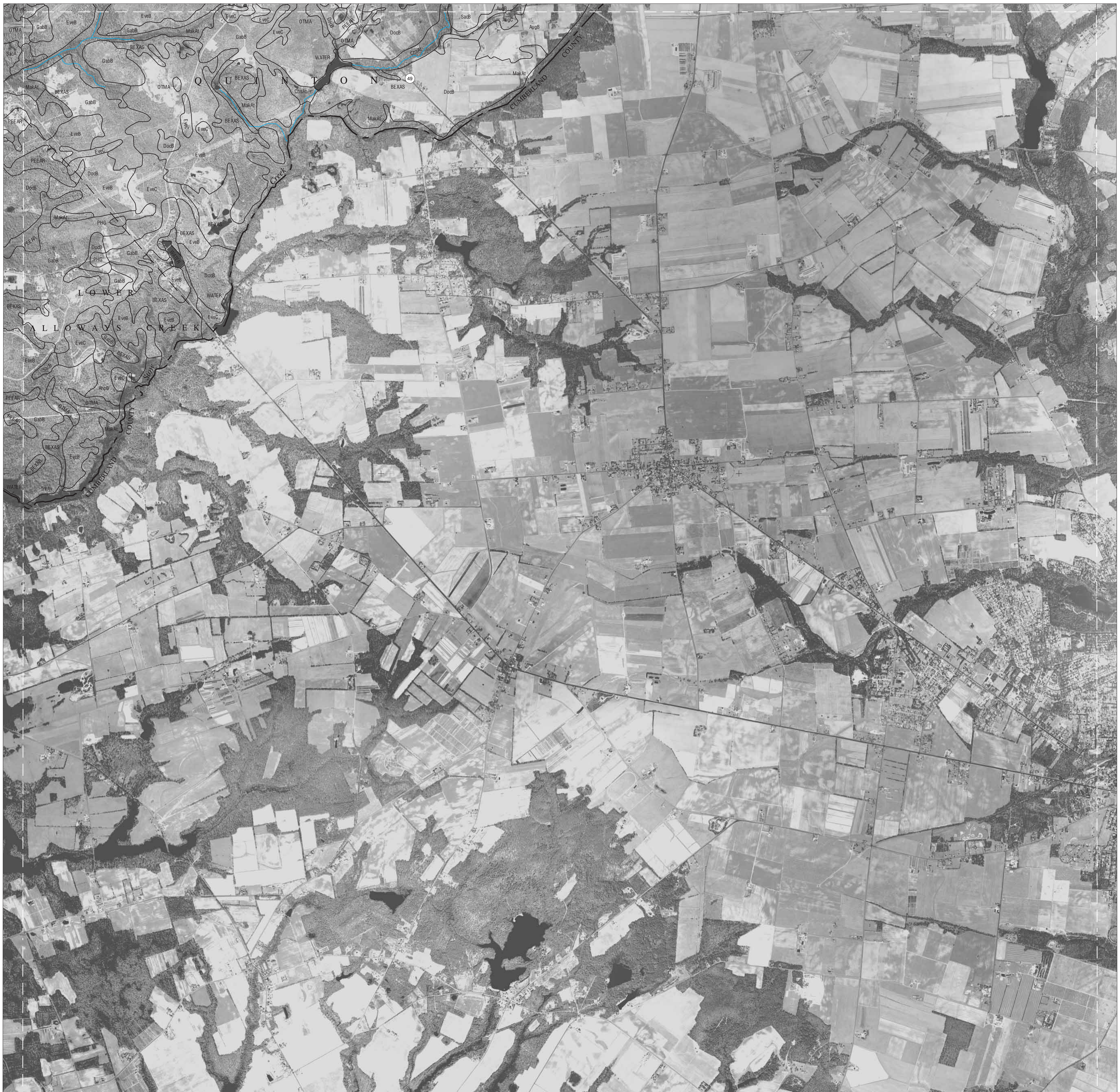
Joins sheet 7, Salem

Joins sheet 8, Alloway

Joins sheet 9, Elmer

75° 22′30″ 75° 20′00″ 75° 17′30″ 75° 15′00″

39° 30′00″



39° 27′30″

39° 25′00″

39° 22′30″

Joins sheet 12, Canton

Joins sheet 14, Bridgeton

75° 22′30″ 75° 20′00″ 75° 17′30″ 75° 15′00″

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North American Datum of 1983 (NAD83). GRS-80 Spheroid
1000-meter ticks: Universal Transverse Mercator, zone 18.
Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quarterquadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

7	8	9
12		14

7 SALEM
8 ALLOWAY
9 ELMER
12 CANTON
14 BRIDGETON

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SHILOH, NEW JERSEY
7.5 MINUTE SERIES
SHEET NUMBER 13 OF 15

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY
BRIDGETON QUADRANGLE
SHEET NUMBER 14 OF 15

Joins sheet 8, Alloway

Joins sheet 9, Elmer

Joins sheet 10, Newfield

75°15'00" 75°12'30" 75°10'00" 75°07'30"

39°30'00"

39°27'30"

39°25'00"

39°22'30"

Joins sheet 13, Shiloh

Joins sheet 15, Millville

75°15'00" 75°12'30" 75°10'00" 75°07'30"

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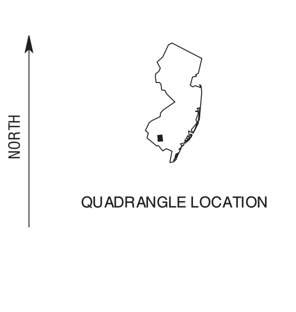
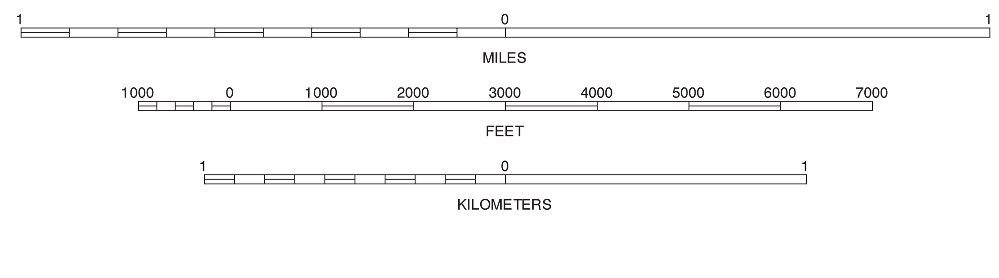
North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 18. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quarterquadrangle.



QUADRANGLE LOCATION

SCALE 1:24000



8	9	10
13		15

8 ALLOWAY
9 ELMER
10 NEWFIELD
13 SHILOH
15 MILLVILLE

INDEX TO ADJOINING 7.5 MAPS

BRIDGETON, NEW JERSEY

7.5 MINUTE SERIES
SHEET NUMBER 14 OF 15

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UNITED STATES
DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

SALEM COUNTY, NEW JERSEY
MILLVILLE QUADRANGLE
SHEET NUMBER 15 OF 15

Joins sheet 9, Elmer

Joins sheet 10, Newfield

Joins sheet 14, Bridgeton

75° 07′30″ 75° 05′00″ 75° 02′30″ 75° 00′00″

39° 30′00″

39° 27′30″

39° 25′00″

39° 22′30″

75° 07′30″ 75° 05′00″ 75° 02′30″ 75° 00′00″

This soil survey was compiled by the U.S. Department of Agriculture, Natural Resources Conservation Service, formerly Soil Conservation Service, and cooperating agencies. Soil lines were compiled on orthophotographs prepared by the U.S. Department of the Interior, Geological Survey, from 1991 (1:24,000) aerial photography. The photo background for this map is an orthophotograph prepared by the U.S. Department of the Interior, Geological Survey, from 1995-1997 aerial photography. Hydrographic lines were developed by NRCS - New Jersey as a navigational aid, and should not be used for any other purpose.

North American Datum of 1983 (NAD83). GRS-80 Spheroid 1000-meter ticks: Universal Transverse Mercator, zone 18. Coordinate grid ticks and land division data, if shown, are approximately positioned. Digital data are available for this quarterquadrangle.

NORTH

QUADRANGLE LOCATION

SCALE 1:24000

1 0 1
MILES

1000 0 1000 2000 3000 4000 5000 6000 7000
FEET

1 0 1
KILOMETERS

9	10	
14		

9 ELMER
10 NEWFIELD
14 BRIDGETON

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MILLVILLE, NEW JERSEY
7.5 MINUTE SERIES
SHEET NUMBER 15 OF 15

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